

THE GEOGRAPHICAL MAGAZINE

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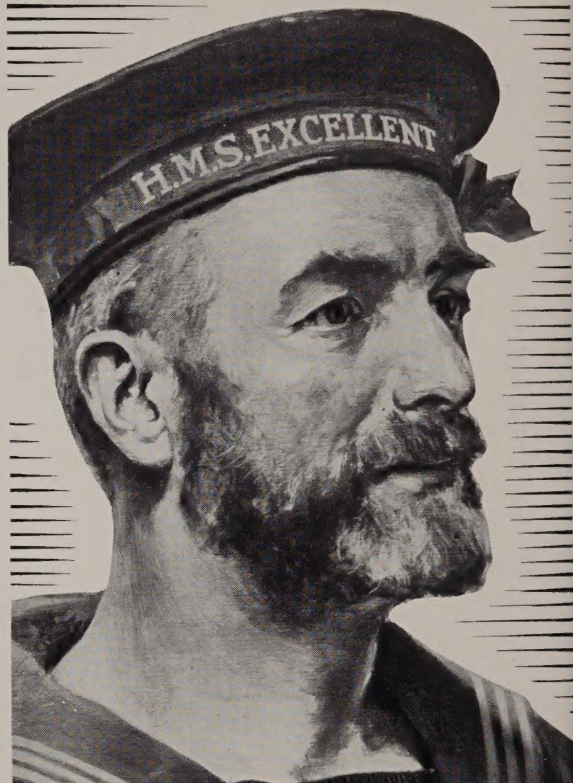
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Reclaiming the Zuider Zee

by JOAN WOOLLCOMBE

Though the war has given a special significance to Holland's mastery over dyke and dam, it should not be forgotten that her major efforts and her greatest achievements in manipulating her inland waters have been entirely in the interests of peaceful progress. The story of how the first and last stages in a colossal programme of reclamation were tackled and completed is told here

IN March of 1918, just before the end of the last war, the Dutch embarked upon one of the most spectacular efforts at peaceful 'expansion' in history. They decided to start work upon the reclamation of the vast tract of water known as the Zuider Zee. The major part of Europe was exhausted by war: reconstruction of every kind was to the fore and although the word *Lebensraum* had not been used as a national war-cry, the Dutch—perhaps more than any nation—were in need of extra living-room. The war-time shortage of food had emphasized the need for new, cultivable land. Recent figures show that Holland has to support more than $8\frac{1}{2}$ million people on a total area of $8\frac{3}{4}$ million acres, of which approximately $2\frac{1}{2}$ million are given to field crops, farming and horticulture. But in 1918 another motive for the reclamation of the Zuider Zee was fresh in the minds of the Dutch. This was provided by the memory, just two years before that, of a particularly disastrous flood following the bursting of certain Zuider Zee banks. Once and for all, they decided, they would 'have done' with their old enemy the sea: they would build an enormous dam across the mouth of that great sector of water that pierced into the heart of Holland.

Perhaps the best way to appreciate the strategic importance to the Dutch of the Zuider Zee, is to fly over it—as I have done several times—and get a bird's-eye view of the living map. It is then (or by an examination of an ordinary map of the Low Countries) that one can appreciate the first stage of a great work, now complete: the building of two embankments, one to run from the North Holland coast to the

island of Wieringen, the other, and more important one, completely shutting out the sea from the Zuider Zee, to run from Den Oever on the mainland of North Holland, to near Zurig on the Friesland coast; twenty-six miles of dam, bearing a double-rail track, a road and a cycle track—a tremendous achievement of engineering.

Behind these fortifications they planned to reclaim four new provinces, with a vast inland lake in their centre, which would give Holland half a million acres of new land and a reservoir of fresh water that in summer would ease drought and, in the floodtime of winter and spring, would carry off surplus water. Plans for this reclaimed area involved, therefore, draining, 'de-salting' and cultivating the sea-bed, laying out new holdings, new 'synthetic' towns and villages and all their ancillary



services; providing sluices and drainage to keep these newly created provinces water-free, and also harbours and locks.

Already they have succeeded in reclaiming two of the four provinces behind the defensive embankments and are well on the way to achieving all that they set out to do. Eventually, where some three thousand fishermen obtained a living on and around the old Zuider Zee, some three hundred thousand citizens will live and cultivate the land most of which was once sea-bed. The first of the provinces to be tackled (with an area greater than that of Leicestershire, and yet still the smallest of the four) is complete 'to specification' and can be visited.

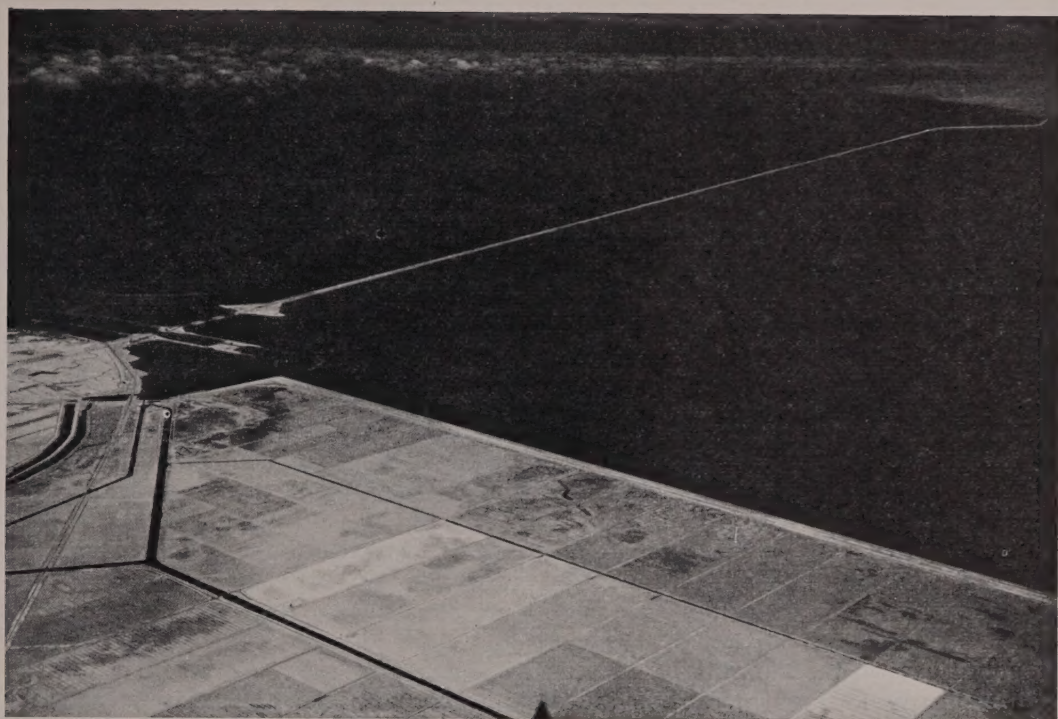
Last summer, just before the war, I decided to make yet another visit to Holland and explore this province, especially to visit the northern end of the twenty-six-mile embankment across the Zuider Zee; it appeared to be (as indeed it has proved to be) a last chance of seeing an example of the pacific enlargement of Lebensraum before war conditions made travel in these parts impossible. It was at once obvious that Holland was in a state of tension. The vulnerable points of the Zuider Zee works were almost in a state of siege. The fact that I made this discovery only after I had suffered arrest as a possible spy, was due largely to my own preoccupation with the purely peaceful interest of the new province and the 'Great Dam' that I intended to visit. I arrived at Den Oever, where this dam starts, complete with camera, but very incomplete without my passport. No amount of official-looking documents, passes and warrants saved me from a day in custody. But that day—spent in cars, buses and trains being taken from the new province back to Amsterdam—actually provided me with a personally conducted tour of some of the places I had set out to see; and, thanks to the courtesy of the English-speaking officer who arrested me, and the pleasant village policeman who

was responsible for me till I was handed over to the Amsterdam police, I did not feel that the misadventure had been entirely unprofitable.

To appreciate the Dutch achievement in successfully prosecuting this tremendous reclamation work, it is necessary to know something of the dramatic story of their labours. "Holland", a writer recently said, "is either land-studded water or water-studded land..." Whichever way you take it, the problem of the *polder* looms large. A polder is a tract of land reclaimed from the sea, kept drained and protected by dikes. As far back as 1887 the famous Dutchman, Dr Lely, proposed the creation of polders from the water-covered land of the Zuider Zee. The Dutch have played Box and Cox with the sea for centuries, since 40 per cent of their land is below flood-level and 25 per cent is below sea-level. The idea of putting an end to flood menace is as old as their history. The decision was taken in 1918, and in June of 1919 the executives in charge of the work ahead started on their task.

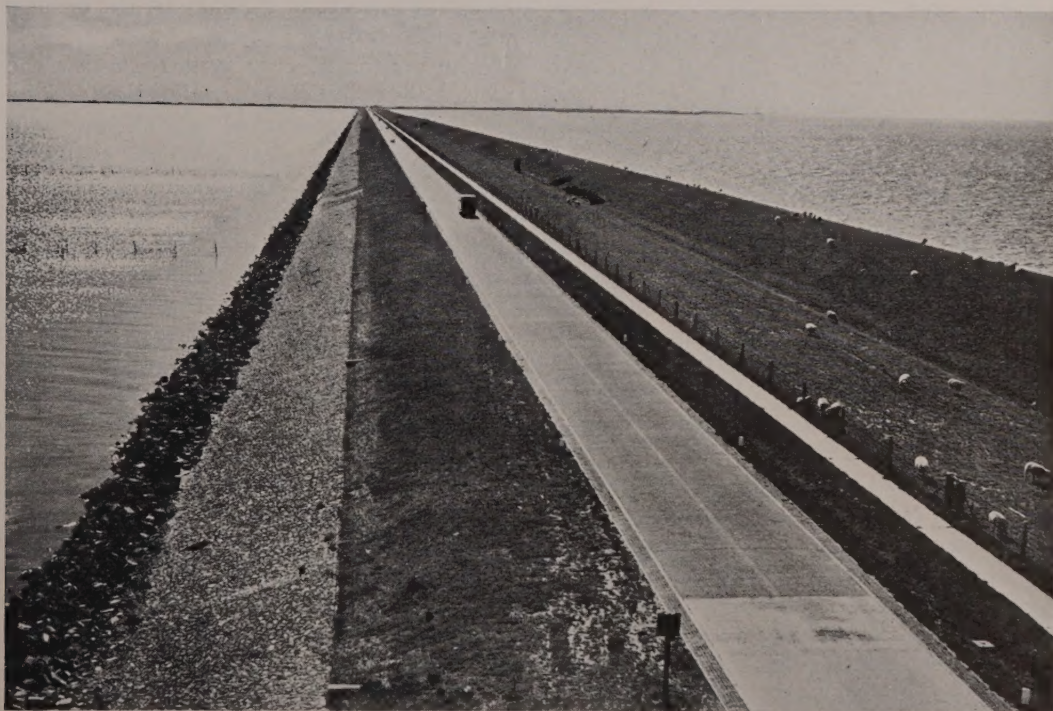
If you hear the story of the work from an enthusiast (and any Dutchman even remotely connected with it is an enthusiast), you begin to realize how desperate was this battle, on several fronts, of science versus sea. It needed an unprecedented marshalling of material equipment: for example, at one place at one critical moment there were 27 dredgers, 13 floating cranes, 132 barges and 88 tugs in operation. This was on the main embankment.

The first step, however, was actually taken on the small embankment, built across from North Holland to the then island of Wieringen (familiar to most of the world as the refuge at one time of the ex-Crown Prince of Germany). This first dam, $1\frac{1}{2}$ miles in length only, runs from the village of Van Ewijksluis, on the north coast, by way of the Amsteldiep to Wieringen, which ceased to be an island.



K.L.M. Royal Dutch Air Lines

The most dramatic view of the Great Dam is from the air; here, plainly seen, is the start of the Dam at Den Oever and the bend near Den Oude Zeug



K. Maaskant

The Great Dam with a double-rail system, carriage road and paths for cyclists and pedestrians

This first step, completed in five years, made possible the reclamation of the first polder and took, altogether, five years.

The next step was to start on the key of the whole main problem, the partitioning of the North Sea from the interior Zuider Zee. Twenty-six miles of open, strongly-tided water had to be crossed by an embankment. The building of this, the 'Great Dam', involved, among other achievements, the dumping of an artificial island in the open sea between Friesland and Wieringen, which was to be used as the main headquarters and from which work could proceed in both directions at once. In addition, there had to be constructed during the work a shiplock for inland navigation (at Wieringen), a large working harbour and the necessary enormous sluices and protective 'sill dams' to guard against the scouring of the seabed by the outflowing water. Some idea of the task confronting the engineers is gained if one examines in more detail the question of construction of a sill dam. First a strong brushwood 'mattress' is made, and sunk-weighted with heavy material; this is lowered into the sea and on top of it are shot load after load of heavy stones, forming a solid foundation on the sea-bed. This same method was employed on the actual construction of the Dam as it gradually grew in both directions from the artificial island, Breezland Shoal. Sill dams were laid beneath the surface and onto these, from hopper barges, immense quantities of fine, impermeable, boulder clay were discharged; heavy loam actually formed the basis of this main dam, and behind it sand was deposited by suction dredgers through long pipes, or dumped from barges. Twenty million cubic yards of boulder clay, 35 million cubic yards of sand and enough basalt to cover both sides of the entire structure above the water-line, were used.

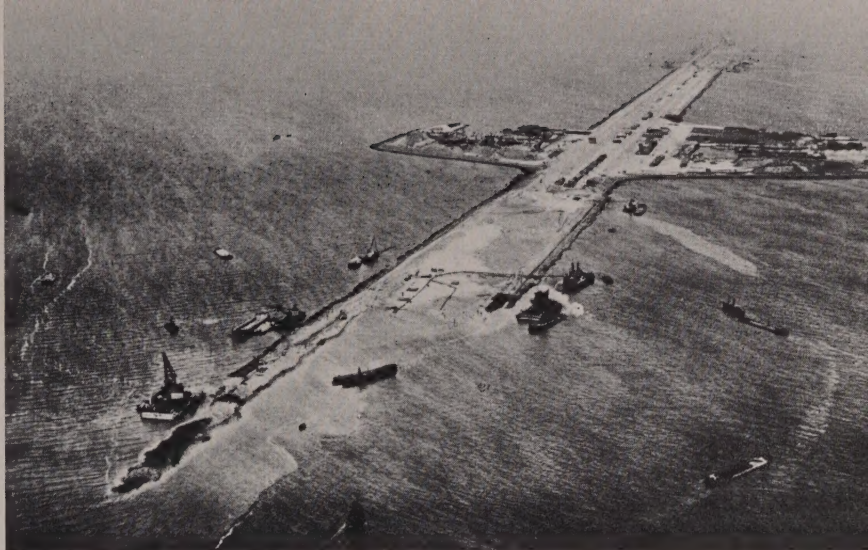
As the embankment stretched across the sea, and its gaps grew narrower, so the velocity of the current raging between

them increased. Dr Lorentz, the great Dutch physicist responsible for the precise calculations, was correct in his estimates of the possible effects of tidal changes and onrush of water against the material of the embankment. Finally the work narrowed down to three 'gaps', each of which was progressively more difficult to close.

To close the first, Blinde Geul, there was a struggle involving more boulder clay to staunch the scouring. In desperation the engineers summoned all their available resources—more barges, more grappling cranes. Almost by main force, almost in a hand-to-hand fight with the sea, they succeeded in closing the gap in the embankment. Next came the gap in the defence nearest the Friesland coast, Middelgronden, and at this stage so strong was the rush of water, some of the workers feared defeat. To add to their worries, pile-worm attacked their material and they had to hurry forward the closing. At one time, here, the roaring waters scoured the channel of the gap to a depth of some 90 feet; but in spite of difficulties, the closure was successfully effected.

The winter of 1931 and 1932 saw the work of completion undertaken: nine thousand feet remained—the Vlieter gap—and when that was closed the embankment would be continuous across the Zuider Zee. Both sides of the embankment crept along and in the ever decreasing channel the sea raged. The photographs show this dramatically. It was exactly at two minutes after one o'clock in the afternoon of May 28, 1932, that all the tugs, dredgers and steam cranes, beflagged and hooting, proclaimed to the watchers that the Great Dam of the Zuider Zee was completed—for the first time the North Sea and the inland lake were entirely separated. "The work", says the laconic official account, apparently as an afterthought, was "completed satisfactorily in a year less than had been allowed. In every respect the tidal changes occurred precisely as they were predicted."

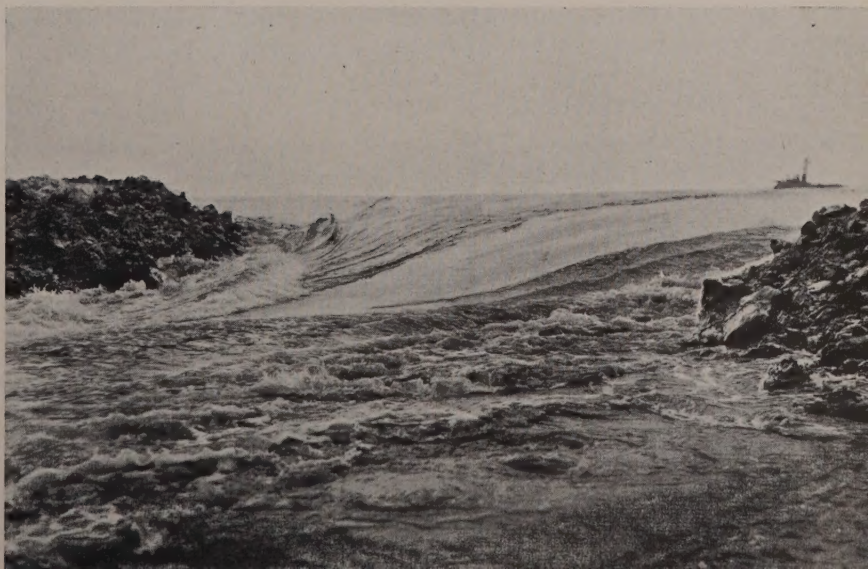
Breezland Harbour, the artificial island which was dumped in the sea on Breezland Shoal. Work proceeded in both directions from here, as the Dam crept forward to Wieringen and Friesland



Finally only three gaps remained in the Dam, through which the sea raged with increasing force as they narrowed. They were progressively difficult to close but were completed in quick time



The last gap to be closed was the Vlieter; and here it is seen on the very day of the closing, with the sea pouring through it at high tide in final fury



A.N.V.V.

K. Maaskant

K. Maaskant



A ditching plough, used for the reclamation of salvaged land; it was specially designed to ensure equal spreading of excavated soil on either side of these parallel ditches



A matter of months instead of decades and the first rye crop was harvested. Then the reclaimed land was ready for the application of the most modern farming methods



As one would expect in Holland, bulbs were planted alongside the crops. Gladioli, on the Andijk experimental polder in 1931. The rye harvest in stooks can be seen standing on the skyline

K. Maaskant

K. Maaskant

K. Maaskant

Meanwhile, in the first of the new polders, Wieringermeer Polder, the work of reclamation was forging ahead while the struggle to complete the Great Dam was actually in progress.

Experiments had been made on a small matter of some ten acres in the shelter of the first, smaller dam; with these results to work upon, the business of cleaning the saline from the sea-bed soil of the new, drained land was immediately undertaken over the entire new polder. Within one year, grasses and clover were harvested from the one-time sea bottom: within another two years crops ranging from rye to flowers were being grown and the 48,000 acres were being systematically planned and farmed. Details of this first reclamation have to be seen to be appreciated. There was, first of all, the terrific task of pumping and ditching an area that must be drained and kept drained. There are two pumping stations for this one polder; each has its own independent system of power, one electric, one diesel, in case of failure. The first, the Lely station, can deal with 260,000 gallons a minute, the second with about half that amount.

Specially constructed, tractor-drawn, 'ditch ploughs' ditched the new land in parallel lines: precision was applied also in ensuring that these new machines spread the excavated earth equally on either side of the plough. The speeded-up scientific system was successful: chemists were in close collaboration, and, instead of the decades it has usually taken to rid sea soil of salt, it was actually only a few months before cultivation was possible—and undertaken.

Holland is, above all, the land of the 'little man'. Small-holdings predominate in the old, and will continue to do so in the new system of land tenure, and the blue-print of this amazing plan for synthetic civilization allowed for the 'parceling out' of the new land in holdings of 50 acres. The layouts of these holdings

are geometrical, with one of their shorter sides of 275 yards running parallel with a metalled road; one of their longer sides (of 880 yards) runs beside a navigable canal capable of carrying small barges. The primary and vital problem of communications was solved by 150 miles of planned roads, and twelve miles of larger canals, crossed by simple, sturdy, modern concrete bridges. Rarely has it been given a body of scientists and engineers to start thus from zero. The new province was in that happy state of 'having no history'. There was no excuse for mistakes: and, as far as can be seen, the Dutch have made none, yet.

Electricity, drinking water (essential in a land so salt-soaked), telephones, these were 'laid on' and the erection of houses and public buildings for the new communities began. The first village on the Wieringermeer Polder was Slootdorp: the workers here, as elsewhere, are housed in modern dwellings, some of which appear to be a pleasant adaptation of the style we call 'Cape Dutch', a wide-angled, all-covering roof being the chief characteristic, with white walls and bright paint. Probably Holland leads Europe in the amount of paint used and the frequency with which new paint is applied to the exterior of its houses!

The new village naturally appears—new; the layout is practical but vegetation is sparse. The Dutch genius for making things grow has, however, concentrated on the solution of this problem, and young trees are being acclimatized so that, in the shortest possible time, they may be planted out around the new settlements. Middenmeer was the next village: and for some reason, probably on account of its excellent public buildings, it appears more thoroughly established already. Wieringerwerf was the next projected. As the settlements took root and their citizens settled down, local government started to function. Already there are even hotels on this first polder.

Having succeeded with what is, in effect, some 9 per cent of the total reclamation, the Dutch have turned their attention to the reclamation of the other polders. The same problems in varying degree will arise there: the saying that 'only God can make a tree' still holds good, and the problem of vegetation and afforestation remain perhaps the most stubborn of the surface problems the colonists have to face. But it seems perfectly possible to accelerate the working of Providence in the cultivation of crops on brackish land, and the growth of shrubs and trees.

Preparatory work on the north-eastern polder began in 1934; and it is interesting to see from the map that reclamation here will end the detachment from the mainland of the islands of Urk and Schokland. Few now remember that in the winter of

the years 1928 and 1929, Urk was for the first time accessible to motor cars (which had never before been seen there) because the Zuider Zee was frozen over. The necessary dikes to protect these new polders are obviously much easier to construct, for the tidal waters are for ever shut out of the remaining sections of the Zuider Zee. The larger area of the north-east polder demands three, not two, pumping stations. About 60 per cent of this land will consist of 130,000 acres of good soil for crops; the remaining 40 per cent is reported to be 'mainly good soil'—and here we see the asset it is to be able, as the Dutch are, to create the land you want as you want it. For that portion of the Zuider Zee that is not suitable for cultivation is calmly left beneath the waters of the new IJssel Lake. The official report adds that "by 1940 it is



K.L.M. Royal Dutch Air Lines

Looking down from the air on reclaimed land, which is crossed by a geometrical drainage system. Both crops and livestock now flourish on what was so recently the bottom of the sea



The Society for Making Holland Better Known Abroad

Street of dwelling houses in Middenmeer in the middle of Wieringermeer Polder. It was the second village to be completed on this polder, and, perhaps on account of its excellent public buildings, appears more thoroughly established than either of the other villages—Slootdorp and Wieringerwerf

hoped to finish the preliminaries and at once to begin clearing the polder for the growing of crops. . . .’ But by 1940 war is again let loose and no man can foretell how and when the polder will be completed.

Two projected polders remain: the south-western, which includes the island of Marken, and will absorb it, covers a total area of 140,000 acres. The largest polder is the south-eastern; it will be about five times the size of Wieringermeer Polder—some 230,000 acres in all.

It must be appreciated that obviously more roads, more canals, more bridges and more work is entailed in the last two polders, and pumping stations commensurate with the tremendous needs must be erected.

The practical question at once arises: what is all this going to cost? A series of admirable handbook-size Reports, printed in English, gives the progress, year by year,

of the Zuider Zee works, and in an early year (1930) one of them evaluates liabilities and assets. The figures are interesting: the total outlay including interest at 5 per cent, until the land is showing a normal profit return, is estimated at just over £45 millions: the ‘evaluated profits’ will then amount to some £52 millions. The cost of the enclosing Dam is £7½ millions. Set these figures beside the present wastage, daily, in any one belligerent country on destructive warfare, and some idea of the intelligence and economy of the Dutch is obtained. But, to put the matter more simply, the estimated cost, per acre, for the work on the second polder to be undertaken is about £130—not a large sum to pay for peaceful expansion, for the increase of some 7 per cent of the total area of the country and of some 10 per cent of the total cultivated area.

Sarnais on the Sarda

Notes and Photographs by J. Ibbotson



On the rivers of Northern India, notably the River Sarda which forms the western boundary of Nepal, a small body of highly-trained men, the mallahs (boatmen) of the Punjab, habitually carry out extraordinary feats of daring in the performance of their work: which is to expedite the passage of floating timber from the pine forests where it is felled, through dangerous rapids to the quiet reaches many hundreds of miles below where the river emerges from the hill country.

To carry out their task they make use of curious buoy-like craft: inflated goat and buffalo skins called sarnais. (The device is the same as the burdjuk illustrated in an article on Tajikistan in The Geographical Magazine for October 1939.) Goat sarnais are used for the risky business of swimming out

to release blocks and jams in the rushing torrents amidstream, while buffalo sarnais are used for the more arduous but less hazardous work of clearing the backwaters.

The skinning of the animals is so skilfully done that the whole carcass is withdrawn through one slit in a hind leg, which is subsequently closed by a tourniquet; the feet are cut off and all apertures are sewn up with the exception of a hole in the other hind leg, which is then used for inflation as shown above. The mallahs in these pictures are nearing the end of their contract. For six months they have been handling thousands of logs daily on the Sarda and have travelled 120 miles: on some days clearing a long stretch, on others, with the river roaring over rocks and piling up the timber into great islands, not so much as a single mile

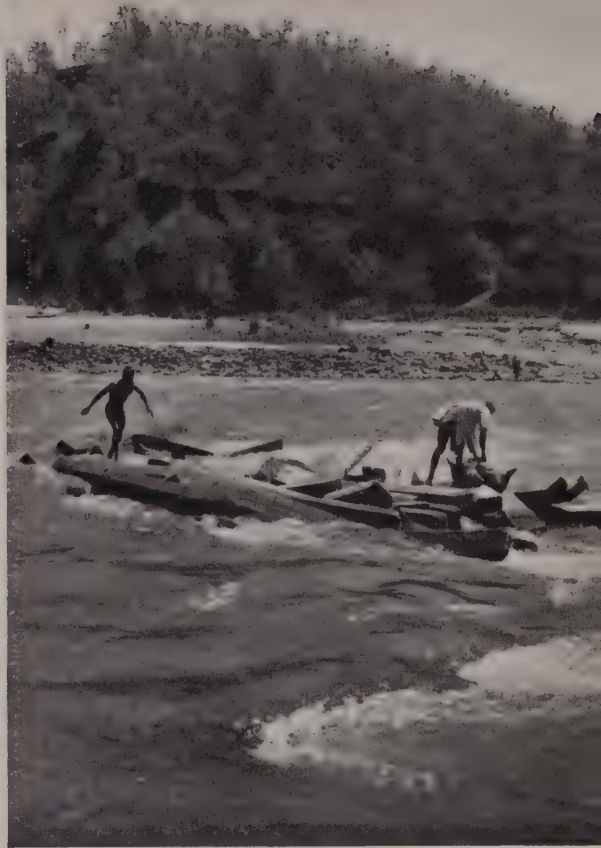


Face down on his buffalo sarnai, which he propels with his feet and steers with a small paddle, a mallah seizes and extricates pieces of timber, cut into lengths for ultimate use as railway-sleepers, keeps them moving and guides them round the bend of the river



The goat sarnai is manipulated quite differently. It has a string harness into which the mallah fixes his legs so that in the water his arms are free for swimming. These pictures show 'White Shirt', the most remarkable and the most highly paid of the mallahs, using a goat sarnai to approach and free a timber jam. He has trained from boyhood for a career that demands a high degree of fitness and nerve, and many are the ignominious duckings he has had. Now his mastery of the air-filled monster is complete! His white shirt is his proudest possession. It is invariably taken off with the greatest care and wound, turban fashion, round his head before he mounts his goat skin and plunges into the water





He leaps into the river, and strikes out towards the pile of sleepers, skilfully avoiding rocks. As he lands on the jam of logs his first thought is to don his precious shirt, then, putting his sarnai safely aside, he sets to work to disentangle the pile. Long experience has taught him to do this with the minimum of effort. It is thrilling to watch him at work in a roaring rapid. At any moment the stack, held by some submerged log, may be freed and swing grinding and bumping down the rapids. Only presence of mind and agility will save him from being crushed to death. The pile loosed, he once more winds his shirt about his head, collects his sarnai and jumps back into the current, ready for the next block





Though their grotesque appearance brings to mind prehistoric monsters, the weight of the buffalo sarnais is negligible to men accustomed to handling heavy timber. So, whenever the river bed is unusually rough or rocky, the mallahs carry them along the bank

Besides being used for clearing the backwaters, buffalo sarnais are also used as ferries to cross the river. When a passenger is carried, two sarnais are used to balance each other. For important occasions a charpai (light Indian bedstead) is tied between two sarnais



Where the river emerges from the hills a boom is erected. The end of the boom, which is built on a slant to slide the sleepers towards the shallows where they are bound together and made into rafts, can be seen on the right of the picture with accumulated timber behind



A raft of embryo railway-sleepers begins the last stage of its journey down river, poled by a different gang of men. For, the last log freed from rock and backwater, the sarnai mallahs' job is done and once more they seek a contract for work on the turbulent waters



Metals in War: Where Germany looks for Supplies

I. Iron and Steel

by G. S. BISHOP

WHEN Hitler set out on his attempt to conquer Europe his first step was to make an exhaustive study of the lessons of the War of 1914-1918. Again and again the Nazis have claimed that the German army was not defeated in battle. Their final defeat was attributed to the collapse of the German economic front under pressure of the Allied blockade. So in the first few months of power the Nazi Government created a new division of the German General Staff. It was to be concerned solely with a study of 'war economics'. Its function was to prepare for a reorganization of German industrial and commercial life to enable them to withstand blockade in war. It involved making full use of all Germany's existing resources and the building up of reserve stocks of certain materials unobtainable in the Reich, and for which substitutes could not be devised.

For three years the 'war economics' department of the General Staff worked at their problem. Research into the question of finding substitute raw materials and foodstuffs was speeded up. New uses were found for the raw materials with which Germany is well supplied. The task of building up reserves of certain commodities was begun. By 1936 detailed plans for a comprehensive reorganization of the German economic life were completed. At the Party Congress in September Hitler was able to announce the German Four-Year Plan. Goering was made responsible for the fulfilment of this plan, which was designed to complete Germany's war preparations.

Goering's economic reorganization brought him into conflict with the famous Minister of Economics, Dr Schacht. There was a sharp clash between the demands of the militarists and the requirements of orthodox economics. Dr Schacht was forced to resign and his ministry was completely reorganized and placed under Goering's wing. The chief control of Germany's economic life passed to the

army. Head of the Department controlling industry and raw materials is Major-General Löb, one of the early specialists in war economics. His fellow officer, Major-General von Hanneken, is responsible for the control of the mining industry, the iron industry, and of power generation. So many other army officers of high rank are concerned with the reorganization of the German economy that this phase is often described within the Reich as 'the rule of the Major-Generals'.

THE KEY TO SUCCESS

The German general staff have learnt well the lessons of 1914-18. Modern war is a war of supply. Once the issue is joined success depends on continued supplies of war materials. The emphasis is on the material—its quality and quantity—even more than on the men who use the material. Air superiority is judged in terms of machines rather than of pilots. We contrast the performance of the Wellington bomber with the Messerschmitt fighters. On land it is the gun and not the gunners which settles an artillery duel. And at sea our primary anxiety is concerned with the possible monthly output of new U-boats.

Behind all war materials looms the problem of raw materials. Modern war is a war of metals. Every phase of war is dependent on metal. On land, the limiting factor to offensive operations is often the number of shells available for artillery barrages. Some idea of material needed can be gauged from the fact that during the last three months of the last war the British army was shooting 50,000 tons of steel shells into the German lines each week. In the air, metals play the same decisive rôle. The strength of the bomber depends on the light alloys used in its construction. The offensive power of the 'fighter' depends on the quality of the steel and alloy engine. And behind the actual fighting forces are the vital lines of communication. Heavy loads of shells, guns, clothing, foodstuffs, and the other necessities of war must be moved constantly forward to the fighting zone in one steady stream. The motor vehicles and the railway services are dependent on metal.

Because modern wars between equal forces are long-drawn-out conflicts which tend to become wars of attrition, victory will go to the belligerent maintaining its forces at the highest level. To be able to

replace the shells which are fired, the guns which are worn out, the aeroplanes which are shot down, and the submarines which are sunk, more supplies of metal are needed. Fundamentally war depends on long-term access to certain metals. The geographical location of the essential requirements for the key metals will have a decisive influence on the outcome of the present war.

As a base of the metal pyramid, iron and steel are the major requirements. The problem of securing adequate supplies of iron ore has given the German military economists much anxiety. To develop the German rearmament programme the output of iron and steel had to be increased at a terrific rate. In 1934 Germany produced 8,603,000 tons of pig iron. By 1938 the output had reached 18,200,000 tons—more than double the 1934 figure. In the same period the production of crude steel increased from 11,698,000 tons to 22,800,000 tons. As a contrast the output of crude steel in the United Kingdom was surprisingly constant. In 1934 we produced 8,849,000 tons of steel. Yet by 1938 our production was only 10,394,000 tons.

GERMAN PLANS FOR SELF-SUFFICIENCY

When the Nazis prepared their plan for a self-sufficient Germany three-quarters of their iron ore supply came from abroad. In 1934 their blast furnaces used 5,218,000 tons of native ore, while 14,061,000 tons were imported. To maintain her steel production in face of a threatened blockade, Germany had to seek sources of raw material supply which could not be cut off by the Allies.

First the experts sought the resources within their own frontiers. Large fields of low-grade ore were available, but the ore content was very low, being only about 30 per cent. Furthermore the sulphur content of this low-grade ore made it unsatisfactory for the production of steel. One of the leading steel-consultants in the world, H. A. Brassert, had evolved a system of removing the sulphur content of the pig iron by a soda washing process. It was tried in the U.S.A. and adopted in England a few years ago when the new plant at Corby in Northamptonshire was constructed.

Goering saw the value of this process and he suggested its introduction into Germany. But the industrialists shrank from erecting the new plants necessary for the large-scale utilization of the native low-grade ores. They may have been afraid of the technical



Map showing the sources from which Germany, up to September 3, 1939, obtained her 'sinews of war': iron ore for the production of crude steel; manganese, chrome ore, tungsten, and nickel, the main alloys used for toughening it; cobalt, vanadium and molybdenum, the three other metals which in a lesser degree contribute to the alloys used in high-grade steel

difficulties, or they may have wished to safeguard the profit-earning capacities of their existing units. Goering listened to their objections and then acted. He refused to allow his war plans to be endangered by the prejudices of the existing steel makers. A new State combine, the Hermann Goering Steelworks, was created to develop the native ore. Plans were prepared for a huge new works at Salzgitter. Originally the capital invested in the State venture was to be only 5 million marks, but in April 1938 the capital was increased eighty-fold—to 400 million marks. Some idea of the magnitude of the undertaking can be gauged from the fact that the Salzgitter plant is designed for an output requiring 150,000 workers.

Already it has justified the hopes of its designers. In 1937, 7,700,000 tons of native ore were used. By 1938, 15 million tons of German ore were used. Thus by the outbreak of war the German iron and steel industry had gone a long way towards the development of its own resources. Already the severity of the weapon of blockade had been tempered.

Yet in the year that the Nazis used such a large quantity of native

ore the German blast furnaces drew 21,927,000 tons of ore from other countries. From which countries did these supplies come? 8,993,000 tons came from Sweden, 5,056,000 tons came from France, and 1,718,000 tons came from Luxembourg. Smaller quantities came from a variety of overseas sources—from Spain, from Algeria, and from America. With the outbreak of hostilities the Allied blockade cut off the important supplies from Alsace-Lorraine, and also from any overseas country which entailed the ore ships passing through the North Sea or the English Channel. But ore from Luxembourg and—most important of all—from Sweden can still reach Germany.

SWEDEN'S RÔLE

The necessity for the Reich to secure continuous access to the high-grade iron ores of Northern Sweden has been the motive underlying a series of German political moves. Germany first attempted to negotiate a non-aggression pact with Sweden and thus draw her into the German bloc. This pressure was resisted. But since the outbreak of war the Germans have successfully pressed Sweden for a new economic agreement. Although its terms have not been formally published, it is widely accepted that Germany has succeeded in obtaining increased shipments of iron ore.

The iron ore deposits in Sweden are at Kiruna in the north. In summer the ore is railed down to Lulea and shipped down the Baltic to Stettin. Because of ice in the Gulf of Bothnia during the winter months this route is closed. As the Atlantic ports of Norway are free from ice, the ore is sent westwards by rail to the port of Narvik in winter. From here it is shipped along the Norwegian coast and so into the Baltic. Both these routes are protected in the present war. During the last war British submarines operating inside the Baltic were able to attack ore boats homeward bound to Germany. In this war, possibly because of the lack of friendly bases inside the Baltic, there has as yet been no such Allied activity. In winter the German ore boats hug the coast of Norway to seek the safety of territorial waters. Hence, unless the war spreads, naval blockade cannot cut off Germany from the Swedish iron ore. The intervention of the Ministry of Economic Warfare may, however, make it difficult for Germany to purchase as much ore as she would like from this source.

With the development and exploitation of her own low-grade ore

Germany will not be short of iron, especially when the high-grade ores of Sweden can be freely acquired. Coal is plentiful and therefore Germany's supply of steel is assured. To ensure a sufficient supply of steel for war purposes, despite the terrific increase in production during the six-year preparatory period, the consumption of steel for domestic purposes has been drastically curtailed. Concrete has replaced iron and steel for use as fencing, lamp standards and many other civil purposes. Houses have been specially designed to minimize the need for girders and pipes. In these and other ways increasing quantities of steel have been freed for the munition-maker.

ALLOYS TO TOUGHEN STEEL

Fortunately for the Allies crude steel is not sufficient for use in modern warfare. Its range of qualities must be widely extended. War has always provided a stimulus for the metallurgist. And with the introduction of high explosives the metallurgist has turned from the problem of tempering sword blades to that of producing armour plating or armour-piercing shells. Each new development produces a complementary rival.

To toughen steel for war and other purposes several other minerals are used. By adding small quantities of these to crude steel, special hard alloys of extra strength are produced. Not only are these high-grade steel alloys required for armour, guns, and shells; they are needed for aero-engines, for railway lines, for rolling stock, for machine tools and for other subsidiary processes. There are seven key 'steel toughening' metals: manganese, chromium, tungsten, nickel, molybdenum, cobalt, and vanadium. Without the addition of one or other of these metals steel is almost useless in modern warfare.

Perhaps the most common known is manganese. Steel alloyed with 7 to 20 per cent manganese was first used by Sir Robert Hadfield for the manufacture of ore-crushing machinery. Its strength led to its adoption for 'tin hats' in the last war. Seven or eight million of these helmets were made from manganese before 1919, some 70,000 tons of steel being used for that purpose alone. Because of the superior steel used in their construction the British helmets were much stronger, and yet much lighter, than the German helmets. Starved of manganese, the Germans were not able to use high-grade

alloy steels for their helmets. A shrapnel bullet travelling at over 750 feet per second would only dent a British helmet, whereas it would pierce a German helmet or break it up completely.

Until the conquest of Czechoslovakia Germany was lacking in manganese. There are ore mines in Germany but the quality of the ore is low and the annual output insignificant. From these domestic sources the yield is about 230 tons. Yet in 1933 the Reich was importing 131,925 tons of manganese ore. Obviously this was a great weakness. As the imports come from overseas they would be cut off in war-time. Two policies were offered by Germany's 'war economists'. One was to force up her imports of manganese in order to build up reserves on which to draw in war-time. The second policy was to gain control of the manganese ore reserves of Czechoslovakia.

Imports were rapidly increased. In 1937 they were four times the quantity imported in 1933. From the level of 554,169 tons in 1937 the imports fell slightly to 425,874 tons in 1938. The major quantity came from British territories. In 1938 British India sent 268,000 tons of manganese ore to Germany. South Africa sent 17,226 tons, while the U.S.S.R. supplied just over 60,000 tons.

WHAT CZECHOSLOVAKIA PROVIDES

With 68 per cent of her supplies of manganese coming from the British Empire Germany's war position was weak. Adjacent to Germany was Czechoslovakia with manganese ore mines which yielded 93,000 tons in 1936. Here was a source of supply which could be developed, and which might, with previously built up stocks, carry Germany through a war. In September 1938 the first blow was struck. In March 1939 the move against Czechoslovakia was completed, and now Germany, although cut off from her overseas supplies, has within her own extended frontiers, substantial reserves of manganese.

However the Czechoslovakian deposits, sufficient perhaps for two-thirds of her requirements, are Germany's only adequate reserves of steel-tempering minerals. Chrome ore is very important. It is widely known because of its use for chromium plating. Yet in Germany the use of this metal for such trivial purposes has been rigorously forbidden. In 1933, when Germany's war preparations were still on paper, the imports of chrome totalled only 47,700 tons. There

are no native resources. By 1938 imports had jumped up to 176,405 tons. South Africa was the main source of supply. From there Germany obtained 59,693 tons. Two other countries provided medium supplies: Turkey sent 53,584 tons and Greece supplied 13,975 tons. Supplies from South Africa were automatically cut off on the outbreak of the war. To prevent Germany obtaining chrome ore from Greece or Turkey we must look to political agreements and the operations of the Ministry of Economic Warfare.

"MORE TENSION, MORE TUNGSTEN"

Tungsten is another leading steel-hardening metal. Its sales have long been regarded as an index of international insecurity. There is a saying on the metal markets of the world, "The more tension, the more tungsten". German imports of tungsten reflect the growing pace of German rearmament. In 1933 Germany imported 3776 tons of tungsten. By 1936 imports had reached 8725 tons, but in 1938 they soared to the record figure of 14,200 tons. In that year the total world production was only 35,300 tons. Germany was the largest consumer. Her own resources are insignificant. In Saxony and Bohemia there are sources which yield only 100 tons per annum. Although costs are double that of imported ore these mines are always kept in operation.

The main source of tungsten is China. Germany drew 8307 tons from there in 1938 and another 1229 tons from British India. Now these supplies are automatically cut off by naval blockade. The only way in which tungsten from the East might reach Germany is via Russia, but almost insuperable transport difficulties stand in the way. Yet it is interesting to note that Russian vessels laden with tungsten have been carefully shepherded by our navy to the contraband control station at Hong-Kong. Under pressure of war the demand for tungsten from China is increasing, and measures are afoot for the acceleration of production in the industry which is under Government control.

Nickel is one of the commoner metals for the hardening of steel. It is also used for stainless steels. The world production of nickel is concentrated in Canada. There, two firms, the International Nickel Company and the Falconbridge Nickel Mines of Ontario, control 90 per cent of the world's output of nickel. In 1937 out of a world total production of 113,000 tons Canada produced 101,960 tons.

Nearly 6000 tons were produced in French New Caledonia. Small deposits are also available in India, in Norway, in Finland, and in the U.S.S.R. Germany possesses a trifling quantity—the last available figure reveals a total domestic production of 268 tons. Against this Germany imported about 4000 tons of refined nickel, and about 20,000 tons of nickel ore in 1938. Any major supply of this metal must come from Canada, and therefore Germany must now be dependent on the stocks which she hurriedly accumulated before the outbreak of war.

STOPPED BY THE ALLIES' BLOCKADE

There are three other metals used for the high-grade steel alloys to a lesser degree than those I have already mentioned. Cobalt, of which the total world production in 1938 was only about 5000 tons, comes mainly from the Belgian Congo, Northern Rhodesia, and French Morocco. Its price of £670 per ton reflects its scarcity. Naval blockade, however, will ensure that no further supplies reach Germany. Cobalt steels are very important for the construction of electrical appliances dependent on powerful magnets. Vanadium is another mineral of increasing importance in the manufacture of certain high-grade steel alloys. Vanadium alloys are specially valuable for welding and repairing worn railway lines. World production of the metal is about 1700 tons. The ore comes from four countries—from Peru, from South West Africa, from the U.S.A., and from Northern Rhodesia. The Allied blockade can prevent supplies of vanadium ore reaching Germany. The use of molybdenum steel alloys is increasing, especially for the manufacture of aircraft and Diesel engines. Fortunately 92 per cent of the world output comes from the U.S.A., so our sea power can again cut Germany off from the main source.

Reviewing the position, Germany is unlikely to suffer from a shortage of iron or steel. The Nazis have used their years of power to develop the exploitation of native low-grade ores and they have still unchallenged access to the essential supplies of Swedish ore. On this basis a recent survey by the *Financial News* concludes that Germany is 96 per cent self-sufficient in pig iron.

Although adequate supplies of steel can be manufactured with little danger of a raw material shortage, the Reich is pitifully short of the

minerals essential for the manufacture of the high-grade alloys necessary for the production of armaments. With the exception of the partial supply of manganese, Germany has been completely isolated by the economic blockade from most of her sources of supply of the 'toughening' metals. The U.S.S.R. provides Germany with an opportunity to remedy this shortage. Plentiful supplies of manganese are available and Russia has also an export surplus of chrome ore. No doubt with the assistance of German engineers other mineral resources may be developed. But the key to any assistance from the U.S.S.R. is transport. Already seriously overloaded, the German transport system is one of the weaknesses of the Reich. To manufacture armaments the German railway system has been deprived of the high-grade steel supplies necessary for the repair of rolling stock and railway lines. Hence the rising accident rate on the railway system.

If Germany is to obtain immediate assistance from Russia there will have to be a new development programme for the German railways. Much of the high-grade steel will have to be used for the construction of new railway wagons and railway lines as well as the building up of reserves to meet possible damages by Allied bombing planes. It would be two or three years before assistance from the U.S.S.R. would be of real value to Germany.

WHY GERMANY WON'T WASTE SHELLS

What implications is this likely to impose on the conduct of the war? It is probable that Germany has a reserve supply of alloy steels approximately equal to one year's consumption. It is an inadequate margin. Therefore for the present it is unlikely that the Germans will contemplate an artillery war with its wastage of shells and guns. Each week would exhaust their reserves at a rapid rate. With the hope that eventually sufficient supplies may be obtained from the U.S.S.R., Germany will conserve her strength on the land because of the impossibility of replacing the material which would be used in a large-scale land offensive. It is different as regards the air. A different series of metals is used for aeroplane construction and for the manufacture of aerial bombs. In a second article I shall discuss the metals required for their manufacture, the geographical distribution of supplies for German industry and their probable effect on the war.

The Kurds of Iraq. I

by Squadron-Leader J. C. A. JOHNSON

How the Kurds are changing their ways and beginning to take their place in the modern world is the subject of this and a subsequent article. The verdict of history has been unkind to the Kurds, but, in common with the comparatively few other foreign observers who have visited them and known them individually, Squadron-Leader Johnson is favourably impressed with their intelligence and adaptability and fully recognizes the natural handicaps, notably lack of education, which have hitherto retarded their progress

I STIRRED drowsily in bed as the chill of the early dawn penetrated my covering of blankets, then rubbed my eyes and slowly became conscious of the world around me. I was lying on the flat mud roof of a house; on all sides other similar roofs appeared. Each had a screen of bamboo matting facing the wind from the nearby hills, and behind it were piles of multi-coloured blankets.

The faint light in the eastern sky grew brighter, and the black shadows of the hills turned green as the crowing of cocks and the barking of dogs heralded the approaching dawn. Gradually the piles

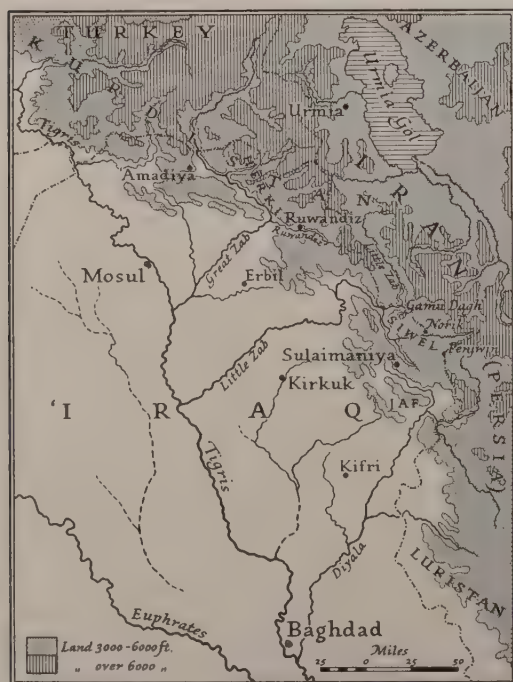
of blankets on the roof-tops began to move, then figures rose silently like ghosts from their midst. Above the masses of coloured clothing they wore, I could see the comely faces of women. They began to walk among their piles of blankets and shake sleeping children into wakefulness. These also rose up, wound several yards of coloured cloth around their waists and heads, stretched themselves, yawned, and silently descended rickety ladders to the courtyards below.

As the sun peeped over the rugged mountains the blankets moved again and men rose from among them, with large black moustaches and bright quick eyes, adding curved daggers to their many yards of waist-band; they also disappeared silently below.

I gazed over the roof-tops to the sloping plain beyond, where lines of black dots were discernible coming from the pass over the hills. They were caravans bringing wood, tobacco and other produce through the night from distant villages to reach the market by dawn.

A few minutes later, when the roof-dwellers had washed their faces in the cold water of their courtyard tanks, the silence of the night ended as shrill screams of women reproaching their offspring broke the still air. Soon afterwards the guttural "Hetta!" of the caravanchis was added to the din as they drove their laden donkeys through the narrow lanes between the houses; then loud voices as people shouted down to them asking the latest news and the price of their wares.

The night has ended. Sulaimaniya is awake.





Sulaimaniya, the largest town in Iraqi Kurdistan with an entirely Kurdish population for whom it is an important trading centre. Caravans from over the surrounding hills are always coming and going

Sulaimaniya is the chief town in Iraqi Kurdistan, in that it is the largest town in the Kurdish area whose population is entirely Kurdish. Other towns exist in Iraqi Kurdistan, but the larger ones—Kirkuk, Erbil and Kifri—are inhabited by as many Turcomans as Kurds, although the tribes around are Kurdish. Kurds are essentially shepherds of the mountains, and do not take easily to the life of a townsman.

In this they resemble their distant relatives the Pathans of Afghanistan and north-western India, who, in the early migrations of Aryan-speaking peoples, penetrated into the highlands east of the Persian plateau while the Kurds spread westwards into what is now north-western Iran, eastern Turkey and north-eastern Iraq. Here, in secluded mountain valleys, they preserved many ancient characteristics which their fellow migrants, settling

in the Persian plains, lost through contact with the outside world. By the time recorded history begins, Kurds and Persians were already recognized as distinct peoples, the former being known as Medes.

Some 600 years before the birth of Christ and 1200 before the spread of Islam, a Kurdish prophet, Zerdusht (Zoroaster), grew up among the mountains of the Azerbaijan district near the Caspian Sea. The gospel that he preached, in its primitive and simple form, is to a greater extent the basis of Christianity and Islam than the adherents of those world religions usually admit. The Kurd of today, however, knows nothing of this. He is nominally a Mohammedan, and has even on occasions been stirred by the call of "*Jihad*"—the holy war—in the name of Islam. But beneath the surface there lurk some curious remnants of Zoroastrian tradition.

On hills and knolls anywhere in Kurdistan may be found a pile of stones under a tree with pieces of cloth tied about it. It is called a *shakhs*, and people who are sick come and sit beside it, perhaps leaving a lamb as a sacrificial offering, or a sum of money which can only be removed by someone really in need of it. By this means they are cured of many diseases.

Some say that a *shakhs* is the grave of a descendant of an Imam. I once asked an old man sitting near a *shakhs* about its origin.

"My father heard from his father, who learned from our ancestors", he said, "that it is very old. It was here in the days of Mohammed the Prophet, and some

say it was here long before then. It is called the *Shakhs-i-Kani Ba* (The Spring of the Wind); in the time of my father's father a great plane-tree stood over it which was blown down by the wind. But then, as always before, when the tree is destroyed another springs up in its place—and that is the one you see there now."

In the religion of Zoroaster fire was considered to be the agent which cauterizes and purifies all things, and was regarded as the visible symbol of the God of Purity. Hence it was but a step to endow wood (as the producer of fire), and certain trees, with an atmosphere of sanctity. Thus certain large and solitary trees came to be regarded much as is the *shakhs* of today. The Zoroastrians even hung pieces of cloth on the branches.

Zoroaster commanded that the dog should be protected and cared for by man even as one of his family; the shepherd looks to his dog for defence against wolves and other marauders. The Kurdish nomad of today, although prevented by his creed from sanctifying the dog, still regards it as a useful ally, and almost a friend. In fact the *tanjîy* (a kind of saluki used for hunting) still remains a member of the household. The Kurd saves his Mohammedan conscience by saying that the *tanjîy* is not a dog, and nowadays to call a man's *tanjîy* his 'dog' is almost an insult.

The Kurds dislike killing dogs. Soon after the Great War stray dogs in Sulaimaniya became such a nuisance that the Political Agent ordered them to be shot; it almost created a riot in the town, and police had to be called out!

Travelling among the tribes of Kurdistan one finds a great variety of dialects, but they have a common basic form throughout, especially in the grammar. There is also an affinity between Pushtu (spoken in Afghanistan) and Kurdish—too strong to be classed as a coincidence. By the casual, or politically-biased, philologist, Pushtu and Kurdish are desig-



Squadron-Leader Johnson in Kurdish dress; Turkish trousers, cut very full from a single width of stuff; a wide, knotted cotton waistband; a loose shirt under a felt tunic, and a turban



H. I. Cozens

Kurdistan landscape. The citadel of Amadiya, a Kurdish stronghold, stands on the flat-topped hill to the right protected by a rampart built up from the rock which crowns the precipitous hillsides



J. C. A. Johnson

The Kurds are great sportsmen. Even when they have not killed the game themselves, their pleasure after a successful stalk is unmistakable: this ibex was shot by Squadron-Leader Johnson



H. I. Cozens

Among Zoroastrian traditions which have lingered on with the Kurds is the prophet's command that the dog should be cared for as one of the family. But their Moslem faith now forbids such sanctification : so to absolve their conscience they cherish the creature under another name and are accordingly insulted if their tanjiy, a kind of saluki, is referred to as a 'dog'

nated as corrupt dialects of Persian. The relation between them is made clear, however, by a knowledge of the migration of Aryan-speaking peoples in the Middle East; moreover the speech of the mountain races, and especially of the Kurds, retains more of the original Sanskrit form through their isolation from the outer world. So Kurdish is one of the oldest forms of the Aryan tongue spoken at the present day.

Further proof that Kurdish is not a dialect of Persian is given by the Zaza dialect, spoken by the Kurds of Turkey and the northern border of Iraq, which bears little resemblance to Persian. The greater the distance of the habitat from Persia, the less does a Kurdish dialect resemble Persian, although its relation to other Kurdish dialects will still be evident.

Kurdish has, prior to the last eighteen years, never been a written language, so

no standard form has been brought into general use; but there is little more difference between the several dialects of Kurdish than between the spoken Arabic of different branches of the Arab race. Arabic, moreover, has had the advantage of being standardized in writing, and to some extent in speech, by the spread of the Koran during the past 1200 years.

Semitic languages are based on consonants while Kurdish is based on vowel sounds. Thus the meaning of a Kurdish word may be entirely altered by a slight change in its pronunciation, including minute inflexions of certain vowels which are not recognized in most of the other Aryan languages. It is for this reason that, as in Pushtu, it is almost impossible for a foreigner to acquire a perfect pronunciation. As with other Kurdish peculiarities, the cause may be traced to the

habitat. Voices developed to shout from peak to peak across intervening valleys acquire inflexions to accentuate or suppress the echo of certain sounds, which can never be imitated by the plainsman.

There are about half a million Kurds in Iraq, a figure which represents only a fraction of the race; Turkey holds some three million and Iran at least one million. In the last-named country a reliable estimate is difficult to obtain owing to the widely separated areas reached by wandering tribes. Apart from those in the north-west, the mountainous country on the western border is peopled by Kurds as far south as Luristan. The north-eastern province of Khorasan also holds some Kurdish tribes; while certain tribes in Baluchistan may also be of Kurdish origin.

From the time when groups of Aryan-speaking families settled in secluded valleys until the present century, Kurdish tribes were cut off from each other and from the outside world by their mountains and by the fighting spirit of their primeval ancestors, who each regarded his own particular valley as his home, and any newcomer as an enemy who must be killed before he himself was overwhelmed. When man began to keep flocks and herds for domestic uses, the tribal exclusiveness was exaggerated by the need to prevent outsiders from sharing the limited areas of good grazing available among the rocky hills.

Intermarriage within the tribe has enhanced physical resemblances to such an extent that in many cases it is possible to distinguish a man's origin by his face as well as by the way he wears his headgear and his dialect. But there is no sign of this close blood-relationship having caused physical degeneration. The Kurd has been truly described as having the highest physical development of any race in the Middle East.

I have on occasion been out shooting with a Kurdish chief on the wrong side of seventy years of age, who rode a horse and

climbed on foot up the steep hillsides with an agility quite equal to my own. On another occasion I saw a villager alleged to be 120 years old, whose age must certainly have exceeded 100 years. He had a son aged ten by a wife whom he had married in later life. This healthy longevity is the result of simple and clean living, which is common in Kurdistan.

To the stranger the Kurd may appear dour and surly—like the Scot—but within his exclusive circle he is smiling and talkative with a childlike lack of discretion: the greatest secret is common knowledge within the tribe. The Kurd has learned



J. C. A. Johnson

A Kurdish agha, or chieftain, from Bardashin. Short and stocky, he has the gait of a man who was able to ride before he could walk



J. C. A. Johnson

An agha of the Pizhder tribe on his favourite mare. Among the Kurds an agha holds the position of a feudal baron, offering to the serfs the protection of armed guards and receiving in return various taxes. He will always ride a mare in preference to a horse because it is quieter and more manageable. Pedigree horses are kept by the tribe for breeding purposes ; the others are used as pack animals



I. C. A. Johnson

Two Pizhder warriors from the agha's bodyguard. These men are regarded as personal retainers and therefore they rank higher than serfs. Each man has his own horse and rifle

to be cunning in action because his preservation has always required action. On the other hand, until recently he seldom conversed with those who were not of his tribe or family, and therefore the keynote of his speech is simplicity; the real 'savage' Kurd scarcely knows how to lie, and when he does he lies badly.

When a Kurd becomes tied up with words, or the cunning put into words which is the mainspring of bureaucratic 'civilization', he may momentarily feel that he is being tricked by something he does not understand, then, as we say, he 'sees red'. He suddenly realizes the futility of words, and leaps to action behind the sharp edge of a dagger or the trigger of his rifle. Thus through a purely natural evolution caused by his environment the Kurd has acquired, among those who do not understand him, an unsavoury reputation for ferocity, treachery and lack of balance.

The Kurdish tribesman has a childlike

sense of humour. Like a child, too, he unconsciously appreciates sympathy and an understanding of his psychology. It is partly because ruling races were indifferent to such considerations until the evolution of British colonial policy in backward countries that the Kurd has been accustomed to regard every foreign power as an enemy to be driven off or exterminated before he himself suffers a similar fate.

Like other mountain peoples the Kurds are a martial race, but owing to their separate communities and 'clannishness' they have never featured as such in modern history. The only Kurdish kingdom known to Europe is the ancient kingdom of the Medes. Nevertheless the Kurds have produced many great individual soldiers. First and foremost comes Cyrus the Great, who united the Medes and Persians and in 538 B.C. conquered Babylon. Others have found fame as



Mark Dineley

The house of an agha, rebuilt after his village had been bombed. He appeared to regard the incident with amusement and incorporated fragments of shell in the decoration of his new home

leaders in Moslem armies, from Saladin (Salah ad Din) in the hosts that opposed the Crusaders, to the late Bekr Sidqi in the army of Iraq; but they have never drawn attention to their Kurdish origin, as the name 'Kurd' implies a shepherd, which in the East is considered a lowly occupation not worthy of great men.

Some have carved for themselves small kingdoms among the tribes of their own race. But that very martial spirit which makes the Kurd proud and independent, and forbids him to acknowledge the sovereignty of anyone outside his tribe for long, has prevented the Kurds from becoming united under any one chief and thus imprinting their name on the history of the world.

In the history of the new state of Iraq individual Kurds have already made their impression. The best-known is Shaikh

Mahmud of Sulaimaniya, whose several rebellions against the British earned him the unofficial title of 'Director of Training of the R.A.F.' He gave the Royal Air Force practice in operations spread over twelve years. The British method of limited air bombardment after due warning suits the ideas of the chivalrous Kurd in war: to the Kurd it is one of the things that are 'not done' to kill too many people. Shaikh Mahmud and his merry men would set off on the warpath and fight for a few months until they began to suffer discomforts, then give in until the restless highland spirit once more urged them on.

Sometimes people got killed, but that was one of the misfortunes of the game. During one rebellion, when a British aircraft was brought down near Penjwin, Shaikh Mahmud captured its two occupants and held them prisoner for a fort-

night. When they became sick he gave a British doctor safe-conduct through his mountains to succour them. The doctor told Shaikh Mahmud that they could not hope to get fit suffering the hardships of life among the Kurds; so the chivalrous Shaikh released them both, and allowed the doctor to take them back with him.

I remember visiting the village of Hama Rashid, Agha of Norik, chief of the Siwêl tribe, who had at one time thrown in his lot with the restless Shaikh Mahmud. As a result his village had been bombed. I was seated on the ground in the moonlight while the chief and his sons and followers sat around with their rifles ready to defend me should any sporting bandit start sniping from the nearby hills; they described to me the bombing of their village.

They laughingly related how they had been warned that their village would be bombed until they gave in—or made their

dakhalat (as it is called). They described in stirring tones how they retired to some caves a couple of hundred yards from the village and watched the bombs falling on their homes. The only fly in the ointment was that it was their own houses being destroyed and not somebody else's. Apparently they regarded the affair with some amusement, and themselves as naughty boys who had been punished by having to rebuild their houses afterwards. It had taken them two months' hard work to rearrange the village before the onset of winter; so they decided that in future they would not be led astray by promise of excitement unless they were on the side of the British.

Another example of the sporting spirit of the Kurds and their disregard for safety is shown in the great sling fights which take place between the children of adjacent villages or of different parts of



I. C. A. Johnson

Inside a Kurdish guest-house. The guests are all men; it is unusual for women, though they go about freely and unveiled, either to appear or to be spoken of at public gatherings

the town. At intervals they go outside the houses armed with slings and stones. Sometimes as many as fifty boys of all sizes and ages may gather on each side. They commence a great battle, hurling stones at each other with their slings until one side finds the fighting too fierce and beats a retreat. Woe betide the passing stranger who unwittingly walks across 'no man's land' while a battle is in progress!

Now that football has been introduced in Kurdistan the time-honoured battles with slings are being forgotten. Except in the summer, when it is too hot for violent exercise, they rarely take place, the majority of the time being taken up in kicking footballs about. The Kurds have taken to football like ducks to water. In the afternoons, when school is finished, every

square yard of uncultivated ground around the town is used for this game. Those who cannot find space in other parts run up and down the streets playing football.

The social system of the Kurds is essentially feudal. Up to recent times no man could prosper or even feel safe unless under the protection of a powerful agha, whose armed retainers guarded the *miskên* (serfs) from any who might attempt to tyrannize the village. In return for this the agha exercised an overlordship, collecting a percentage of the crops, a fee for marriages, and other taxes. He called out the villagers to fight an enemy when required, and was generally in the position of a feudal baron of ancient England.

An agha used his family as the basis of his power. He produced as many sons as possible, who would be loyal to him in an extremity, and put each in charge of a village, or group of villages, to unite them in the common cause when necessary. If sufficiently powerful he might bring other villages under his control by the simple expedient of annexing them from less powerful protectors. Thus in many Kurdish tribes there is no blood relationship between the aghas and the *miskên*, but the aghas are of a common descent.

Another important feature in the social system is the shaikhs. Among the Arabs the term 'shaikh' signifies a tribal chief, but in Kurdistan a shaikh is a holy man. Certain shaikhly families have acquired the title because they claim descent from the Prophet Mohammed, in which case it corresponds to the title of *seyyid* among other Mohammedan peoples; other shaikhs are holy men, but do not claim such ancestry. Not unnaturally the former class is the more influential and powerful.

It is unfortunate that a number of the shaikhs have not contented themselves with the religious welfare of the people. Like the priestly class throughout the world, they have at times used religious influence to increase material power, and become analogous to powerful tribal



J. C. A. Johnson

The two elder sons of Hama Rashid, Agha of Norik, who entertained the author with a stirring account of the bombing of their village



H. I. Cozens

A party of reapers going off to work accompanied by an armed guard able to retaliate against sniping bandits

aghass. But on account of the veneration in which they are held they can usually command influence in circumstances where that of an agha has begun to wane.

One day when I was sitting under a leafy bower on the roof of a well-known shaikh's house a terrific squall of wind and rain suddenly arose. For a moment it seemed as if the thick tree-trunks which formed the framework of the shelter would be torn from their foundations. A shaikhly relative, seeing the fear on the faces of his serfs, smiled benevolently, saying:

"Heed not! I will place my hands upon the tree, and lo, it will not fall."

Suiting the action to the word, he leaned his weight against the tree, and indeed it did remain standing.

For a moment the overwhelming religious tension in the atmosphere was such that I could scarcely refrain from echoing the murmurs of veneration which rose from the lips of the men around. I could

quite understand how men born and bred in this village under the eye of their shaikh could not but regard him as possessing superhuman powers.

In modern Iraq the power of the shaikhs and aghas has been curtailed. The villager still works under his agha as the owner of the land—the only one, in fact, who is competent to organize and supervise the work of the village; but the simplest villager now realizes that all the power of his agha or holiness of his shaikh will avail him little should he unwisely be persuaded to act contrary to the law.

Certain individual Iraqis who cannot claim tribal ancestry talk glibly of "breaking up the tribes" and "exterminating the aghas" as has been done in some other countries, but on the whole the Iraq government treats the matter with greater foresight and seeks mainly to 'break' those chiefs who use their influence against the government.

A Balkan Sequence

III. Seaside

by JOHN LEHMANN

A longing once more to revisit the countries of the Danube before war "banged and locked the gates" against him led Mr Lehmann last July to make the journey described here and in our January and February numbers. Though now we think of the Balkans under the dark menace of the European struggle, these articles help us to remember their days of sunshine

ONE of the great movements which swept Europe in the years between the end of the last war and the outbreak of this was the Bathing Movement. That is likely to be forgotten soon, eclipsed as it was by other less innocent movements in the last seven years; but no continental traveller, as he casts his mind back in melancholy over long years of Cook's tickets and battered passports and incoherent scenes about the bill, can forget those innumerable bathing beaches, on land and sea, in all countries, where acquiring a brown skin was as deadly serious a pursuit as football at a Public School, and a tube of Nivea Cream as necessary as a topee in the tropics.

This movement flourished in the new Balkans as everywhere else. The Black Sea had rapidly become a vast holiday rendezvous. The Russians set the pace, by turning Yalta and Sochi and other formerly expensive and aristocratic resorts into centres of rest-homes for the exhausted workers and officials of the Five-Year Plans. Skin-baking had yet to be learned; but in the early mornings the promenades teemed with a medley of surprised, orderly, sun-happy faces, Great Russian, Ukrainian, Georgian, even Uzbek and Mongol, and a few hours later these faces were bobbing among the blue, glittering waves.

On the other, Balkan, side the movement was quickened by the prospect of luring the newly booming tourist trade from the West. The Nivea Cream idea was imported from the Wannsee; Bandol and Cannes became the glorious ideals of luxury and *chic*. At times, to judge from national propaganda, you might have imagined that the natives were as proud of these new *plages* as they were of having their own Cabinets and Air Forces,—and who shall say they were wrong? To parade (and strip on) those sands was, I realized, a necessary experience if one was properly to understand the psychology of Balkan Slav and Dacian.

The journey to Varna from Bulgaria's capital was an all-day affair, the train winding in and out of the mountains and valleys, with long

stops at wayside stations where quantities of lemonade were drunk and sticky plums consumed by the parched-mouthed passengers. Later in the day, the sheer gorges with their violet and brick-red cliffs sticking nakedly up through the soil, the scattered groves of oak and ash and walnut, gave way to vineyards and fields full of sunflowers and maize. In the dirty brown pebbly streams, buffalo had planted themselves wallowing up to their bellies for coolth, and naked small boys capered round them, waving and splashing at the train. The third class was crowded with Bulgarian conscripts, in their mud-coloured uniforms and high boots, heads shaved to shininess; as they wiped their streaming foreheads again and again, they looked rather wistfully out at buffaloes and boys. Newspapers and plums and the clichés of conversation gradually palled, as the sun lengthened the engine's flying shadow ahead of us. It was not until evening fell that glimpses of the sea appeared between hillocks in the distance, the passengers leaning out of corridor windows began to point excitedly and adjust hats and collars, and we drew in to Varna station.

For years I had been forming my own picture of Varna; alluring posters, plastered over the stations and tourist offices of Central Europe, had led me to believe that it was the last word in south-eastern smartness and gaiety, and that stream-lined super-hotels would woo me with neon-lit entrance portals and commissionaires. This, no doubt, was rather naïve, but the shock was nevertheless severe when I found myself in the hall of a noisy and decrepit inn right in the centre of the town's busy thoroughfares, arguing cholerically about the price of a bedroom which had clearly gone up a hundred per cent as I crossed the threshold. And this, in everyone's opinion I had consulted, was the flower of Varna's hotels. Not a sign of that balcony over the sea I had fondly pictured to myself! Later, I discovered that anyone who knew the ropes rented a room in one of the little villas close to the beach, but that evening my reactions were limited by what I saw before me: instead of the highly polished modernistic (and quite useless) furniture any traveller has a right to expect nowadays, a broken-legged chair and a small dressing-table covered with a worn cloth on which were imprinted the stains and grease of ages. I hurried out miserably, determined to restore myself with a sight of shore delights before I went to bed.

They took some finding. And as I wandered through the streets, I began to realize that my idea of the Dobruja coast had been faulty in



Varna plage, Bulgaria's own miniature Monte Carlo on the Black Sea



Little villas near the beach at Varna, rented by those who knew the ropes

more ways than one: this was not the West but the East, and the atmosphere of the old days of Turkish rule was unmistakable all round me. By the time I knew Varna better, and had travelled too in the Rumanian Dobruja farther north, I felt it as something generalized in the dilapidated, easy-going look and life of the country; but now I noticed little signs one by one: a boy hurrying across the street balancing a brass tray of coffee; a white and blue minaret suddenly slipping into view between two flat-roofed houses; an old man in a fez leading a donkey.

I reached the plage at last. It was luridly illuminated. Lamps of many colours were festooned over white pillars that formed a sort of triumphal archway leading down to the beach, and beyond it, between the shore and the casino buildings, rows of lamps were strung along the promenade where confused masses of holiday-makers struggled in their evening *corso*. Among the rather weary-looking mothers and fathers of families, the tittering trios of nubile maidens, the schoolboys and schoolgirls with chocolate-brown, blistered faces and throats, groups of young sailors, a leading motif in the pattern, threaded their way. Their white uniforms showed up broad and swarthy faces worthy of sailing under the Jolly Roger; but the neatness of their white gloves, the fluttering ribbons of their caps, and a gentle orderliness of movement, made them seem rather like overgrown schoolboys on a Sunday outing.

A military band was playing somewhere in the depths of the casino restaurant, and from time to time a searchlight mounted on some small Bulgarian warship in the harbour swept the sea. Then pink and green rockets would go up into the clear starlight, and the promenaders stopped, lifting faces skywards and murmuring happily. Here at least some effort had been made to imitate a Riviera resort, but what a frail façade it appeared against the scrubby little happy-go-lucky town!

I settled down to a table in the restaurant garden, ordered some beer, and watched the life of Varna stream by. There was scarcely anyone in that crowd smartly or flashily dressed. Their unaffected holiday clothes and a look of quiet, rather chastened pleasure on their faces gave the scene a surprisingly touching quality. I had expected chic, and a display of carefree riches; but here the usual make-believe of a tourist haunt seemed scarcely to conceal the country's truth: these people were poor, forlorn-looking even, unspoilt in their happiness but

a little bewildered too in such nearly *mondaine* surroundings. Monte Carlo might be the model Varna strove to emulate, but it was of the Viennese Prater that I was reminded. "A one-horse town," an acquaintance of mine summed it up in boredom later on. It was; but that, I thought, was precisely the charm, and the more I explored it on succeeding days, extending myself with the tawny-limbed Nivea-devotees on the beach in the morning and walking out past the last villas and huts along the pretty cliff paths in the afternoon, the more I grasped how primitive Bulgaria was. Inevitably that newspaper nickname came to my mind: "The Cinderella of the Balkans".

Cinderella, however, had an obstinate recollection of her lost shoe. Consulting a map, I saw to my delight that the Rumanian resort of Balcic, my next port of call, was only a few miles farther up the coast, just across the frontier. But when I asked in the travel bureau whether I could get a bus through, I was met with a frozen and offended stare. Returning, crestfallen, to the hotel, I went into a shop to buy some attar of roses for friends at home; the proprietor, discovering I was English, with true Balkan hospitality, immediately sent a boy out for cups of Turkish coffee and invited me to a long heart-to-heart talk. In the course of it, I mentioned my perplexity about getting to Balcic. The tone of his answer revealed to me again how sensitive was the spot I had touched. It was clear that no Bulgarian bus would dream of facilitating contact with the Rumanian Dobruja (the Rumanian buses behaved in just the same way about Varna). When Balcic returned to its rightful Bulgarian owners, then of course Varna buses would speed there and back in a couple of hours. . . . Meanwhile, I found that far the most satisfactory route, if endless difficulties were to be avoided, was to proceed via Bucharest and start again from there. It was like going back to Birmingham in order to get from Southampton to Bournemouth.

So it was eventually in a Rumanian aeroplane, which flew straight across the olive green marshy wastes of the Danube in under an hour, that I reached Balcic. On purpose to surprise and delight his passengers, the pilot overshot the aerodrome, and circled slowly over the sea. There, far below us like a toy model painted in delicate colours, lay the little cliff-guarded bay. The waves that formed an almost imperceptible white fringe on the sands, were soft silky-blue in the morning haze, and up the slopes innumerable tiny houses climbed, the pale plum and cherry colours of their tiles blending exquisitely



A stretch of the Danube, bordered by olive-green marshy wastes, midway between Bucharest and Balcic



Queen Marie's garden: an almost too-pretty foreground to the view of the town and Bay of Balcic



In Balcic: dusty lanes and a slender, white minaret pointing into the cloudless sky



Drawing water in sunbaked Balcic. Here, as in Varna, the atmosphere was strongly Turkish

with the tones of the surrounding landscape. I do not think there was a single person in that aeroplane who did not break into smiles or exclamations of pleasure as the pilot sprung this surprise on us.

Down on land again, I found that Balcic had as strongly Turkish an atmosphere as Varna; Turkish boys in fezes rushed for our luggage as we arrived in the square, there were the same Turkish gaffers leading their loaded donkeys through the dusty, sun-baked lanes, and a slender white minaret pointing into the cloudless sky. But, beyond that, nothing could have been a greater and more instructive contrast. If Varna seemed poor and neglected, Balcic had an undeniable elegance; a veil of fashion thrown over an equally impoverished background. The cliffs were crowded with the neat white villas, the carefully tended gardens of Bucharest's smart world; every politician who had ever held office seemed to have built himself a graceful holiday-home here on retirement; and the crowning touch was set by the late Queen Marie's villa on the further side of the bay.

My host, a young journalist who had recently been on a British Council trip to England, skilfully managed to get me a pass into this famous villa, where I could contemplate the shrine containing the Queen's heart. She had certainly managed to devise an enchanting paradise for herself in the luxuriant bosage of the cliffs. The gardens were laid out in a series of steep narrow terraces, with an abundance of green trailing plants that seemed to pour down like the waterfalls and burst into a profusion of bright flower blooms like the fountains; and below them all the translucent sea flashed between the lacing branches. It was full of unexpected nooks and arboured walks, and in the middle an old minaret had been cunningly incorporated into the general design, an almost too-pretty foreground to the view of the bay of Balcic in the distance. Round corners, we would suddenly come on noiseless sentries, eyeing us warily and perspiring like shower-baths; but I can think of no place in Europe where I would rather do my sentry-go.

On the beach itself, all was graceful nudity, lipstick, and peeling gossip. The Cult was in full swing, the dark-eyed belles of Bucharest were cooking smooth-muscle backs and thighs with scientific care, now one side now the other, while their swains kneeled or stood beside them, gazing heroically out to sea. Very little actual bathing, however, was being done, except by the extremely young who clearly didn't know any better. Nevertheless, an artist who joined my host's

party—for there was an artists' colony at Balcic as at any self-respecting Côte d'Azur resort—learning that I was English and an author, decided at once to challenge me, the representative of Shelley's race and *Le Sport Anglais*, to a swimming contest. Foolishly, feeling that national prestige was at stake, I took up the gage and in we skipped. I managed to steer a course slightly more to the south than my opponent, a course that would eventually lead me towards the end of the mole; gradually his cries, which sounded like "*Au large!*" "To the ocean!", grew fainter and needed no answering; as his head and still challenging arm became tinier among the waves, I slipped round the mole and flopped to rest on a seaweed-slippery rock well out of view.

Balcic was as charming a place as I have ever been in, but my host was full of apologies for it. There was no hotel; now for real elegance and luxe I should go to Mamaia. "The Hotel Rex!" This was not the first time that cry had rung in my ears. Even before I left London the fame of the Hotel Rex at Mamaia had echoed faintly towards me; and once in Rumania no one to whom I casually mentioned that I was going to the coast, failed to sing its praises. It was clearly a national monument, there was something of awe in the way people spoke about it.

To reach Mamaia, you have first of all to go to Constanța, Rumania's chief seaport, from which she despatches the products of her oil industry to all countries outside the Danube basin. It is busy, dirty as a lascar, without appeal to those in search of sand and sun, but in spite of this it has a certain romantic quality common to all the larger commercial ports of Europe. The harbour was full of ships and tankers from all over the world, Norway, Holland, Greece, Hong-Kong, and sailors speaking a dozen languages lounged about the quays. Two big Black Sea liners, Rumanian and Italian, waiting for the arrival of their passengers, were extravagantly illuminated at night; and the floodlights, the rows of glow-worm port-holes mingled with the flares from the naval dockyards beyond, the lamps of the hurrying harbour craft, and the stars that were brilliant in the summer sky above.

Constanța smelt of oil, rainbow patches spread and glistened on the water's surface; this did not seem to disturb the enthusiasm of the multitudes who indulged all day in fishing. Some, the smallest, balancing in rows on the edge of precarious landing-stages, appeared content with the most primitive contraptions of string and bent hooks;

others—right in the middle of the harbour's busiest quays—had smart rods and lines. Dip-nets too, of the kind so often seen on the lower reaches of the Danube, found their advocates; I watched a party of grey-haired old fishermen, oddly attired in bathing-dresses and straw boaters, bring haul after haul, wriggling and silver-flashing, to land.

The great moment, however, was when I took my seat in one of the bright-blue open buses that fly through Constanța's streets every ten minutes or so, and clutching my towel against the wind, was whisked off to Mamaia. The Hotel Rex approached, invisible,



*On the quayside at busy, dirty, charming Constanța,
Rumania's chief seaport*

momentous. The coast here is flattish and without features, and Ovid, forced to settle in the neighbourhood before the Hotel Rex was built, found it an inferno of ice and desolation. That was certainly not the first impression I received, arriving about two thousand years after the spoilt Roman poet had execrated Tomi. The strains of the brass band could be heard from afar, even before the enormous beach and the bandstand-pier came into view. The sea stretched out as far as eye could follow, deep and flawless blue, and the sun beat down almost unendurably on my unprotected head. It was not quite midday, and people were still pouring through the imposing portals that led to casino and bathing cabins, though I had gathered that the true enthusiast arrived at dawn and left long after night had fallen.

Mamaia is nothing but the beach—and the hotel. But what a beach it is; I can believe people who say no finer sand is to be found anywhere along the Black Sea shores. I myself was barred from



The Hotel Rex: standing in solitary pomp on the beach at Mamaia, pride of all Rumanians

properly appreciating it, as I found it so roasting to the untrained sole of my foot that I had to hurry down to the water at once. But all around me Rumanian youth and beauty lolled in it, rolled in it, scampered and danced along its unending level stretches without a trace of pain. Luckily, I managed to swing myself up onto the pier from the water, and join the throng that paraded up and down there, girls and boys of every hue between pink and chocolate but none so shamefully pale as I was. Experts were present in considerable numbers: they could be distinguished by having a Nivea tube in one hand, and a large parti-coloured water-ball in the other. These balls were bounced from hand to hand in the sea with an almost ritual display of jollity; indeed there was something about the whole scene which gave me the impression that everybody was intent on keeping up a pretence, like actors in a musical comedy, of immense gaiety and freedom.

Perhaps this was entirely subjective, the result of a foreigner's isolation; perhaps it came because the papers that morning had been particularly disquieting about the international situation. Whatever the reason, it grew deeper as the day advanced. Late in the afternoon I sat at a table on the casino's verandah, still debating

whether I should walk up the sands to where the fabled Hotel Rex, a little hazy now, towered in solitary pomp. I could see the bright stripings of the parasols on the terrace, the billowy awnings over the balconies; but something held me back. My eye wandered round the scene, trying to relate some tangible shape to the grain of discomfort in my mood. Further up the beach, between the hotel and the pier, a party of Polish boy scouts had pitched their tents and were preparing for a bathe. I had seen them before on the railway journey: they were the guests of the people, a token of the amity that united Rumania and Poland, two countries which had reached a new pride and prosperity together in the post-war world. They were singing one of their national songs. . . . Far out to sea little smoke blobs appeared: could they be from the Soviet fleet, rumoured out on manœuvres? In the background the radio boomed the afternoon news . . . London . . . Danzig . . . the German Führer's speech. . . . I felt suddenly chilly and dispirited, and, defying the Hotel Rex and an imagined chorus of accusing acquaintances, turned to look for a bus back to Constanța, back to Bucharest and home.



The Jacobean Country Church

I. The 17th-Century Atmosphere

by A. K. WICKHAM

There are many Englands and one of the sturdiest rises again before us when we are confronted with the relics, sacred and profane, of that eventful and troubled period in our history—the Jacobean Age. In three articles, of which this is the first, the spirit of that age, the ghosts of some of its great figures and the monuments which perpetually echo its aspirations, its traditions and its attitude to problems long since settled will be briefly paraded

IN 1917, during the later stages of the battle of Arras, I was sharing a shell-hole with a lance-corporal for whom I had a great regard, and who was killed at my side a few weeks later. Existence was uncomfortable and we discussed preferable occupations, as many soldiers must be doing again. My friend, who had come to the war from Leeds University, said he wished he were back in his laboratory. I said that I should like to be on a bicycle, exploring country churches, a habit I had acquired while at school at Winchester. In the interval between two wars my wish has been granted in almost immoderate measure. I have visited quite an unusual number. It has been a pleasant and a harmless hobby, one inducive to reverie, and to oblivion of the present. With the help of my camera, my notes and an indifferent memory, I wish to exploit these happy hours, to look into the past and to evoke the atmosphere of one of the ages whose problems are settled.

The 17th century up to 1660 was a time of character, of individualism and of exuberant fancy. These qualities are seen in religion and in politics, whose leaders were men of principle and distinction, in a rare degree worthy of their causes, in poetry and in the arts, and they have left some relics in our churches as well as a great tradition to our history and our literature.

Between this age and ours lie the Restoration period with both its bathos and its afterglow, the elegant polish of the

18th century and the commercialism and revived medievalism of the Victorians. Behind it lay the long years of the Middle Ages, and the short vulgar turmoil of the English Reformation. All these ages have their conventions, and in ecclesiastical art the styles follow in ordered development and procession. Only rarely does an individual character break through the set phrases of medieval piety—"of your charyte pray for the soules of . . .", "*cujus anime propicietur Deus*". Only rarely is the great lady of the 18th century not possessed of all the virtues and as assured of a comfortable place in the next world as in this. The epigraphy of the 19th century and our own time is more sparing in sententiousness and in piety, and is also more devoid of interest. I shall, in a later article, give a few epitaphs characteristic of the centuries.

But in the period in between all is uncertain, passions and fancies are unfettered, the heroic and the saintly qualities are exalted, there is a clash of great principles and of great men, the ages meet. In statecraft the century lies between Cecil and Walpole, in religion between Cranmer and the Latitudinarians, in poetry between the sanity of Shakespeare and the frigidity of Pope; in architecture between the stiffness of the grid-like Elizabethan façades and the conventionality of the Georgian porticoes, in the monumental art between medieval perfection and the finish of Roubiliac. It is our nervous baroque period, one of movement and aspiration, not of acquisition or contentment. Thus



A. K. Wickham

To a fanciful generation which delighted to exalt heroic and saintly qualities we owe such family monuments as this. It was erected in 1650 in Eggesford Church, Devon, during his lifetime by Arthur, Viscount Chichester and Earl of Donegal, to the memory of himself, his wives and children.

we have the solemn wisdom of Bacon and Clarendon, the intense totalitarian ruthlessness—on both sides—of Strafford and Cromwell, the sublimity—Catholic and Protestant—of Donne and Milton, the mysticism of Crashaw, Vaughan and the innumerable sectaries, the conceits of Herrick and of Marvell, the artists Nicholas Stone and Inigo Jones, the saints George Herbert and John Bunyan, the martyrs Hampden and Charles. Before these splendid baroque figures the Jacobites, even the non-jurors themselves, have a rococo unreality.

It is not idle to call to mind this superb background when we contemplate the relics of this time in English country churches, for even the humblest of them, and most of them are relatively humble, recall in some degree this atmosphere. It comes to us more intact in some of the colleges of Oxford and Cambridge and in some big town churches like St John's, Leeds. But everywhere of greater interest than themselves is the spirit which they bring down to us across three hundred years.

Thus the church at East Brent, like the better known one of Croscombe, in Somerset, recalls the Counter-Reformation and the great name of Laud, who was Bishop of Bath and Wells a few years before the pulpit, the gallery, the ceiling, the pewter candlesticks, and perhaps the eagle lectern, were made. Under his impulse, colour, ceremony and richness returned to the churches which the Elizabethans had whitewashed and the Puritans were to ravage again; a new mellow light was thrown upon many medieval structures and has blended pleasingly with their Gothic lines. Here the intricate pattern of stucco work falls into a row of little medieval corbel heads and retains the medieval cusp as a chief motif of the decoration, but the spirit is something original and new.

Or see what this age has done at Cartmel in Lancashire. Above the medi-

eval stalls a classical entablature was placed about 1620, resting on columns with Corinthian capitals, but the ornament of the two periods blends subtly and pleasingly, as easily as the signs of the Passion mingle with the vine foliage on the pillars. At Barsham in Suffolk the east window was remade about the same time; a tracery in lozenge-design covered the whole window and on the outside was continued in flint work all over the east wall. It may be somewhat crude, but is it not much more pleasing than the ruthless classicism of the 18th century or the slavish copying of the 19th? It is easy to imagine how *they* would have remade this window. Two of the most admirable medieval churches, Abbey Dore in Herefordshire and Walpole St Peter in Norfolk, have an inner entry through a Jacobean screen which greatly increases their beauty.

It is chiefly in a partial form that the work which we may generally, but incorrectly, call Jacobean, survives. Pulpits, royal arms, pews and other woodwork, an occasional brick tower, and, above all, epitaphs and monuments. From the towers, too, many bells from this century mingle their voices with those of their ancestors and their descendants. For the Church had no need of important new buildings, such as the great new families were building for themselves, largely out of the spoil of her lands, like Hatfield, Blickling, Bramshill, Audley End, Temple Newsam, Wroxton, and many others. These were the social counterpart of the medieval abbey, and the tombs of their founders, proportionate in magnificence and almost in size with their houses, crowded out the little church at their gates, as if in death too they would still dominate, and take the places of the poor. And this in many a church they have literally done. The transepts, the ends of the aisles, even the chancels have been filled with their monuments. Many have been removed by a generation more impatient of the privileges



Wickham

Though the intricate pattern of stucco work on the roof of the church at East Brent, Somerset, has the medieval cusp motif, the spirit here, as in other churches showing the influence of the Counter-Reformation, is warm and colourful—a patch of sunlight between Elizabethan white-wash and the stark asceticism of the Puritans

A. K. Wick



The same influence and the same successful blending of periods is clearly seen in the great church at Cartmel in Lancashire where, above the medieval stalls, columns with Corinthian capitals support a classical entablature. These columns were placed in the church about 1620



A. K. Wickham

Not only did the leading families of the 17th century build themselves great houses, they also crowded out the humble churches at their gates with tombs of proportionate size and splendour. Part of the Dormer monument at Great Milton, Oxon



Percy Slater

Who can approach the 17th century without first seeing the church of Little Gidding in Huntingdonshire?

of the dead, but many have in the course of time become an integral and attractive part of our parish churches. The poor do not crowd our churches so much now that their removal is any longer justified. As they are the most imposing examples of my subject, it is with them that this and two subsequent articles will chiefly deal.

But not yet. Who can approach the 17th-century church without first making his pilgrimage to Little Gidding? Its fragrant memory lives in the exquisite pages of Isaak Walton's *Life of George Herbert* and in Shorthouse's masterpiece, *John Inglesant*, a cunning pastiche of the literature and spirit of the time. For with incredible skill Shorthouse, a Birmingham manufacturer, wove into his romance long excerpts from contemporary literature. This was not discovered until long after his death. Nicholas Farrer, scholar, theologian, Fellow of Clare College, and traveller, settled at Little Gidding, on the death of his father, a London merchant.

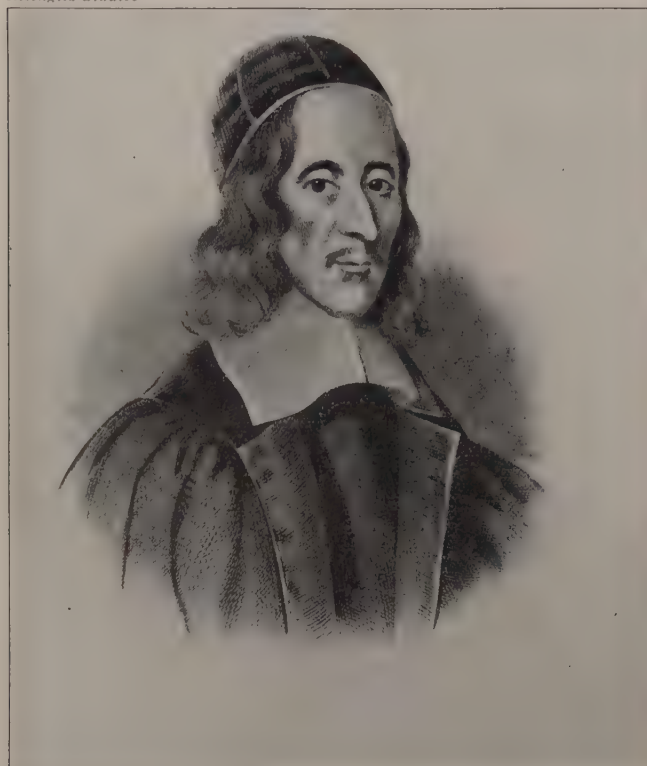
"For Mr Farrer", I quote Isaak Walton, "having seen the manners and varieties of the World, and found them to be, as Mr Herbert says, *A nothing between two Dishes*; did so condemn it, that he resolved to spend the remainder of his life in mortifications, and in devotion, and charity, and to be alwaies prepar'd for Death." With this purpose he collected a little 'Colledge' around him, which was known as his Family. "This Family, which I have said to be in number about Thirty, were a part of them his Kindred, and the rest chosen to be of a temper fit to be moulded into a devout life; and all of them were for their dispositions *serviceable* and *quiet*, and *humble*, and *free from scandal*." Mr Farrer and his Family kept up a perpetual chain of prayer in this place, day and night, from 1630 to his death in 1639. This was continued by the others till they were broken up by the Civil Wars.

The little church, after two tactful restorations, still stands in a field in Huntingdonshire, though the domestic



Rischgitz Studios

A. Cubitt



Leighton Bromswold, Huntingdonshire, the church rebuilt by the poet George Herbert and his friends. The pulpit and reading desk are of an equal height, "that Prayer and Preaching might agree like Brethren, and have an equal honour and estimation"

George Herbert. The rebuilding of Leighton church was a result of his concern for religious things and heightened his interest in them; encouraged by Nicholas Farrer, he finally took holy orders in 1630, when in his 38th year, and was given the living of Bemerton, Wiltshire

buildings of the community, Gidden Hall, have disappeared. At Leighton Bromswold in the same county is the church which George Herbert rebuilt: "he, by his own, and the contribution of many of his Kindred, and other noble Friends, undertook the Re-edification of it; and made it so much his whole business, that he became restless, till he saw it finisht as it now stands. . . . He lived to see it so wainscoated, as to be exceeded by none; and by his order, the Reading Pew, and Pulpit, were a little distant from each other, and both of an equal height; for he would often say, 'They should neither have a precedency or priority of the other: but that Prayer and Preaching being equally useful, might agree like Brethren, and have an equal honour and estimation'." So they still stand today, as he left them, each under its canopy at each side of the chancel arch. From 1630 till his death in 1632 he was Rector of Bemerton near Salisbury ("his desire to enjoy *his Heaven upon Earth* drew him twice every week to *Salisbury*"), but, beyond his grave-stone in the chancel, the church there does not contain many notable relics of his age or himself. For us he lives in Walton's life, and in his hymns and verse of which *The Church-floore* may most appropriately be quoted here:

Mark you the floore? that square and speckled
stone,
Which looks so firm and strong,
Is *Patience* . . .
And th' other black and grave, wherewith
each one
Is checker'd all along,
Is *Humilitie*:
The gentle rising, which on either hand
Leads to the Quire above,
Is *Confidence* . . .
But the sweet cement, which in one sure band
Ties the whole frame, is *Love*
And *Charitie*.

From this atmosphere it is a far cry to the cosy little building at Willen in North Buckinghamshire, built by Wren's pupil,

Hooke, after the Restoration. There is a great difference in spirit, for instance, between the brass font at Little Gidding and this white marble one, from which smug little cherub heads look round on the embryo box pews and their incipient sleepiness.

With these we may compare the church of Steane in Northamptonshire and that of Low Ham in Somerset. The latter was built by Sir Edward Hext before his death in 1623 and completed by his grandson George Stawel in 1669, whose nephew, the second Lord Stawel, ruined himself by building a vast mansion on the rising ground above the church. This was never finished and has now completely disappeared. But the church remains



A. K. Wickham
White marble font in the cosy little church at Willen, in North Buckinghamshire, built by Wren's pupil, Hooke, after the Restoration



F. E. Howard

Low Ham church, Somerset, stands solitary among mounds that mark the ruins of a never-completed mansion

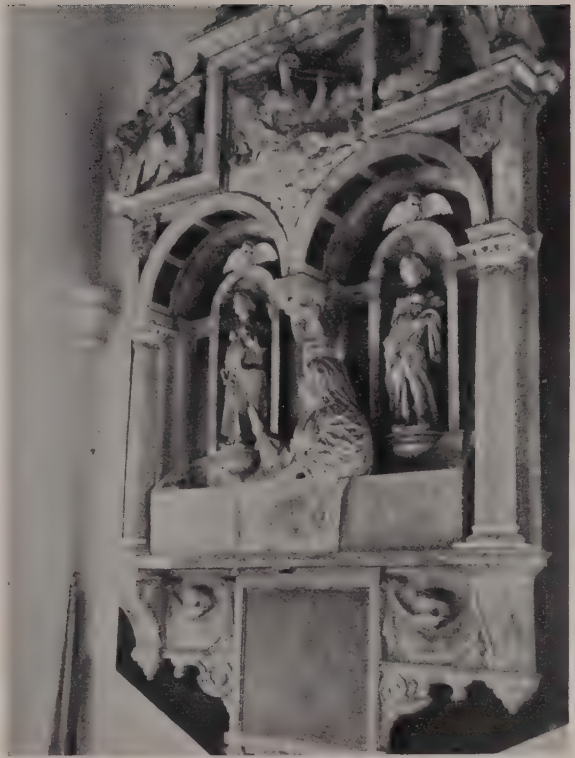
intact and is one of the most perfect examples of the late Gothic tradition. At first sight it appears ordinary Somerset Perpendicular, which might have been built some two hundred years earlier. Beside the glorious and better known towers built of the golden stone of Ham Hill there are many simpler structures like this in the lias areas (Ham Hill is another Ham, some eight miles away). But there is something unsatisfactory about the relation of the aisle to the main building, and on closer inspection the tracery betrays it all. It bears the same relation to Gothic as does Canaletto's picture of Eton College Chapel. Within, behind a railing at the end of the north aisle, is the tomb of the founder, and across the chancel screen the appropriate text added by his grandson: "My sonne feare God and the Kinge and meddle not with them that are given to change". The tombs, the texts, the cherub heads below them, the archaic little building stand in

solitary melancholy below the big mounds heaped up for the glory of a house and family which should have eclipsed Montacute or Brympton.

The church in the park at Steane is a much more satisfactory structure. Gothic materials have been incorporated, but the whole building, which is square in plan and surmounted by a charming forest of obelisks, is of the genuine Carolean blend. (As it is a private chapel permission to see it has to be obtained from the owner, Mrs Walter Norris.) It was admirably described by Mr Arthur Oswald in *Country Life* in July 1938. Within there is a most interesting series of monuments of the Crewe family, covering the whole of the century.

In the succeeding articles I shall deal with examples of these monuments in East Anglia and in Somerset. Here meanwhile are two little Devonshire families in alabaster and a martial relief from Oxfordshire. These are the eight daughters of

This monument at Steane, by John and Matthias Christmas, commemorates Sir Thomas Crewe's daughter, Temperance Brown, who died in 1634, aged 25. She is described as "A Constant lover of the Best, of a disposition amiable and cheerfull, and witt high and pleasant"



The little church of Steane, standing in a private park in Northamptonshire, was built between 1620–1634 by Sir Thomas Crewe, lawyer and Speaker of the Commons. It incorporates some earlier material such as the 14th-century west window and the angle buttresses

A. K. Wickham

By courtesy of Mrs Walter Norris





Part of the large tomb at Great Milton which commemorates Sir Michael Dormer, who died in 1618, his wife and his father. It depicts the knight's exploits in the field of battle, probably in the Low Countries

A. K. Wickham

On the Bluet family tomb at Holcombe, Devon, are effigies of the eight daughters of John Bluet, and his wife Elizabeth whose family owned the neighbouring manor for centuries. The skulls show that these children died before their parents

A. K. Wickham





A. K. Wickham

Children from the Chichester family tomb (shown on p. 407)—touching effigies in alabaster

John Bluet and Elizabeth his wife, *née* Portman, whose family lived in the manor here from very early times until the 18th century. Above, on two levels, are the recumbent effigies of their father and mother under a fine canopy. Four of the children hold skulls in their hands, which shows that they predeceased their parents, who died in 1634 and 1636. Families were large then, but infant mortality was high. Later, alas! the Bluets were not so prolific and the last of them, looking in vain for an heir, bequeathed his property in 1786 to a mere namesake in the hope of his being a relative. This man sold everything in 1857.

The other family who are grouped less symmetrically, but very prettily, between the martial feet and the martial insignia of their father are the children of Viscount Chichester, who erected this monument to himself, his two wives and the children of

his second wife, who died in 1648. Of her he says.

Loe heere: the mirrour of her sex whose praise
Asks not a Garland but a Grove of Bayes.

At Great Milton is a large tomb to Sir Michael Dormer, who died in 1618, and his wife and father. On one end is an elaborate relief celebrating Sir Michael's exploits in the field, perhaps in the Low Countries.

The monuments of this time and later are the special province of Mrs K. A. Esdaile, who is every year adding to our knowledge of the subject. To her two books, *English Monumental Sculpture since the Renaissance* (S.P.C.K., 1927) and a shorter brochure, *Monuments in English Churches* (S.P.C.K., 1937), and to my friend Mr J. G. Mann's article in the Walpole Society Volume for 1932-3, I refer any whose curiosity may have been aroused by these pictures.

The Isles of Scilly

by OLIVER WARNER

SOME twenty-five miles beyond the point where Land's End buries its granite teeth in the Atlantic, cluster the Scillies. Sometimes visible from the Cornish cliffs, they are as romantic a group of rocks as are to be seen from this land, and as lovely. Within the space of a few hours their aspect may change from drenched and obliterating mistiness to sparkling clarity, and to the ravishing blues of a Mantegna. Restlessness is their nature and their charm: not the human turmoil of a pleasure resort, but that of a place which bears the full force of the moods of a vast and capricious ocean. The Scillies are miniature but they are not tame, and it is only within the last century that science, having lessened the navigational terrors which surround them, has also discovered how man can best exploit their soil.

Most archaeologists have abandoned identification of the Scillies with the Cassiterides or 'Tin Islands' of Herodotus, but they remain secure in the minds of all who love legends as a tangible relic of Lyonesse, the land of the Arthurian knights, most of which lies fathoms deep between them and the Cornish coast. Those who have read Miss Edith Olivier's reminiscences—*Without Knowing Mr Walkley*—will recall her record of strange visions seen by those who gazed westward towards them into the sunset; while Sir Walter Besant's story *Armored of Lyonesse*, still read by visitors to the islands for its loving description of rocks, birds, tideways and people, makes great play with this legendary but fitting background.

The archipelago which renders the Ordnance Survey map of the Scillies so chequered and bewildering is made up of about a hundred and fifty islands, islets and rocks, only five of which, if lights and their keepers are excepted, remain inhabited. These five are St Mary's (which contains more than half the entire population); St Martin's; Tresco, the residence of the Dorrien-Smith family; Bryher; and St Agnes, with fine prehistoric barrows and a holy well. Besides these five, there is Annet, full of sea birds; St Helen's, with the scanty remains of an ancient church; and Samson, the home of Besant's heroine. These are three of the larger and most visited of the many islets no longer possessing other tenants than fowl and beast.

Away to the west, the first light which welcomes the ship homeward bound from America, is the once dreaded 'Bishop', with its immense

pharos. There is something particularly awe-inspiring about this structure, with its tall stark outline, like that of a vigilant sentinel, and the terrific sweep of the rays of its lantern. It bears the full surge and thunder of those mighty storms which sometimes isolate its keepers for weeks on end. Its tower has a play of many inches, and to be stationed near the top of the lighthouse in a wind of Force 10 and upwards in the Beaufort Scale is an experience few seek and none forget.

The Bishop, and the jagged Western Rocks which lie near it, have been the graveyard of many ships, a few of the most sensational wrecks being within living memory. Tresco has a museum of battered figure-heads from these defeated vessels, eloquent and pathetic toll of the sea. One wreck at least has penetrated to the most prosaic history book—that of Admiral Sir Cloudesley Shovell, on his return from Toulon in the service of Queen Anne, in 1707. It is said that, still breathing, he reached a bay in one of the larger islands, and that he was done to death for the sake of an emerald ring by an old woman who discovered him unconscious. Shovell has his memorial in Westminster Abbey; less eminent men find rest in the islands themselves: for instance in Old Town Bay, St Mary's, lie buried 120 of those lost in one of the biggest disasters of its time—that of the *Schiller*, which foundered in 1875. Indeed, until the coming of steam, the establishment of efficient lights, fog-signals, wireless and other aids to shipping, the Scillies took an annual toll of life, the islanders dating events by what the Atlantic strewn on their wild shores. Not for nothing does Bryher boast its Hell Bay, while due south of Annet the name Hellweathers glares from the map.

Penzance is the normal port of embarkation for the Scillies, and here the small steamer *Scillonian* may be found moored against a wharf. The passage of nearly forty miles, past Mousehole, and including some magnificent cliff scenery, is apt to be rough. The trip can be a stern test of whether or not a passenger is a good sailor, and it is vain to plead a trouble-free crossing of the Atlantic. The *Scillonian's* present captain has the reputation of being undeterred by the fiercest weather; it is one which the pilots of the air service which supplements the steamer are not so readily allowed to earn. They have a continual and sudden enemy in fog, and a difficulty in circumscribed landing grounds.

It is in the spring that, so far as cargo-carrying is concerned, the island steamer is busiest. The climate is mild: mean winter temperature is 46 degrees F.; summer 58. Horticulturally, therefore, the

Scillies possess unusual possibilities, which the last century has seen well exploited. The sub-tropical gardens of Tresco are as famed as those of Abbotsbury, and are in some respects unique. Fuchsias, geraniums and myrtles attain an immense size in sheltered parts of all the islands, while aloes, cactus and the prickly pear can be grown without difficulty. These are curiosities; but the staple industry of the Scillies is the cultivation of early vegetables and—more particularly—flowers. Varieties of the lily, the stock and the daffodil are most favoured.

A visitor has in the Scillies the span of an early spring and a long summer. In spring he will see fields of waving white flowers of an abundance which may take his breath away, like those of Andorra in the Pyrenees. Box after box is loaded into the *Scillonian* at Hugh Town from the small island launches. From Penzance, the Great Western railway conveys them swiftly to London and other centres; for this is Scilly's prosperity, an industry at once picturesque and pleasing, and one in which, thanks to geographical peculiarities, the islands have immense advantage.

There is an old Scilly saying that for every man who dies a natural death on the islands, the sea takes nine. Once it was true, and the Scilly fisherman still ply a dangerous trade. Lobsters are among their richest harvest, but there is no lack of variety in fish, though it is a business which in no way now rivals in importance that of the fields: nor, if the practice still exists at all, does smuggling. In former times robbing the excise was the occupation, indeed the passion, of many Scillonians.

Smuggling and wreckage must always have been more lucrative sources of income than kelp, the preparation of which, until the discovery of the market for early flowers, loomed large in the island life. Kelp is seaweed: and it was by gathering immense quantities, burning it in kilns on the shore—a notable sight—and selling the calcined ashes that at least some regular income was secured. From these ashes bicarbonate of soda, iodine and other chemicals were derived, and kelp was formerly much used in the making of glass and soap. But the preparation was arduous and the reward small. Twenty tons of seaweed went to one ton of ash; and none regret the passing of this trade.

The history of the Scillies, long linked with that of the Godolphin family, who were formerly tenants under the Crown, has been obscure if not entirely virtuous, in contrast to the loud and constant drama



James Gibson

Gathering stocks at Holy Vale, St. Mary's: the harbour in the distance



James Gibson

Daffodil harvest: 'Scilly whites' on the slopes of Old Town Bay, St. Mary's

staged by the Atlantic. In 1646, when the New Model Army had swept all before it, St Mary's got a taste of excitement with the landing of Charles II, then Prince of Wales. His stay was of a few weeks only. He soon sailed for Jersey, preparatory to his flight to the Continent. The Scillies, nevertheless, mark the first stage of the celebrated Travels of the King. Charles found life in Hugh Town dull: but he was a doughty sailor, and the March sea gave him a frolic passage.

Sir Richard Grenville, grandson of the Armada captain, held the islands for some time in the King's interest, but he was ultimately routed by Parliament forces under Blake and Ayscue, whose men built a fort which still stands, its ruins commanding the passage between Bryher and Tresco. The islands bear the remains of other fortifications, most prominent among which is the Elizabethan Star Castle, on St Mary's. Though now a hotel, its walls and stone-work have been well preserved, as has the gate-house nearby. Its commanding position, perched on a hill to the west of Hugh Town, gives the visitor an enchanting survey of sea and coast line.

Rare today is the resort which has no manufactured entertainments. The Scillies offer no temptation to the tourist but themselves. Rocks and bays, shags, shearwaters, the unlikely puffin and a hundred other varieties of birds, plants and fishes are its natural delights. Clouds, rain, high winds, waves, and quick relenting sunlight provide its variety. If these are enough, the visitor has them in abundance, and it is said that few, very few, reach the shores of these islands only once.



Swan Story

Photographed by W. Suschitzky



For as pretty a spring story as could be told of our April countryside we have visited the swannery at Abbotsbury, and taken a page out of the family history of the Mute White Swan. This Dorset swannery, the largest in Britain, is unique because the birds, though marked, are full-winged and virtually wild. Their number varies between 200 and 500 pairs. Adults are pure white but the young are greyish brown with white underparts. They remain in the nest only a day or two while the female is still brooding the late hatchers. A single brood, of from five to seven, is the rule, and incubation lasts for some thirty-five days. The cygnets are not fully fledged until they are over four months old.

Although these swans (*Cygnus olor*) are classified as 'mute', in contradistinction to

noisier British species — notably whoopers (*Cygnus musicus*) and Bewick's (*Cygnus bewicki*)—when irritated, or alarmed for the safety of their brood, they snort explosively, sometimes with great shrillness. They also hiss. The voice of the cygnets is feeble and peeping.

Mute Swans have a trick most engaging to watch. They stretch a foot out behind them and to the side, with the web distended so that it dries; then, with a dexterous movement, the foot is brought forward and drawn up into the flank feathers without further wetting.

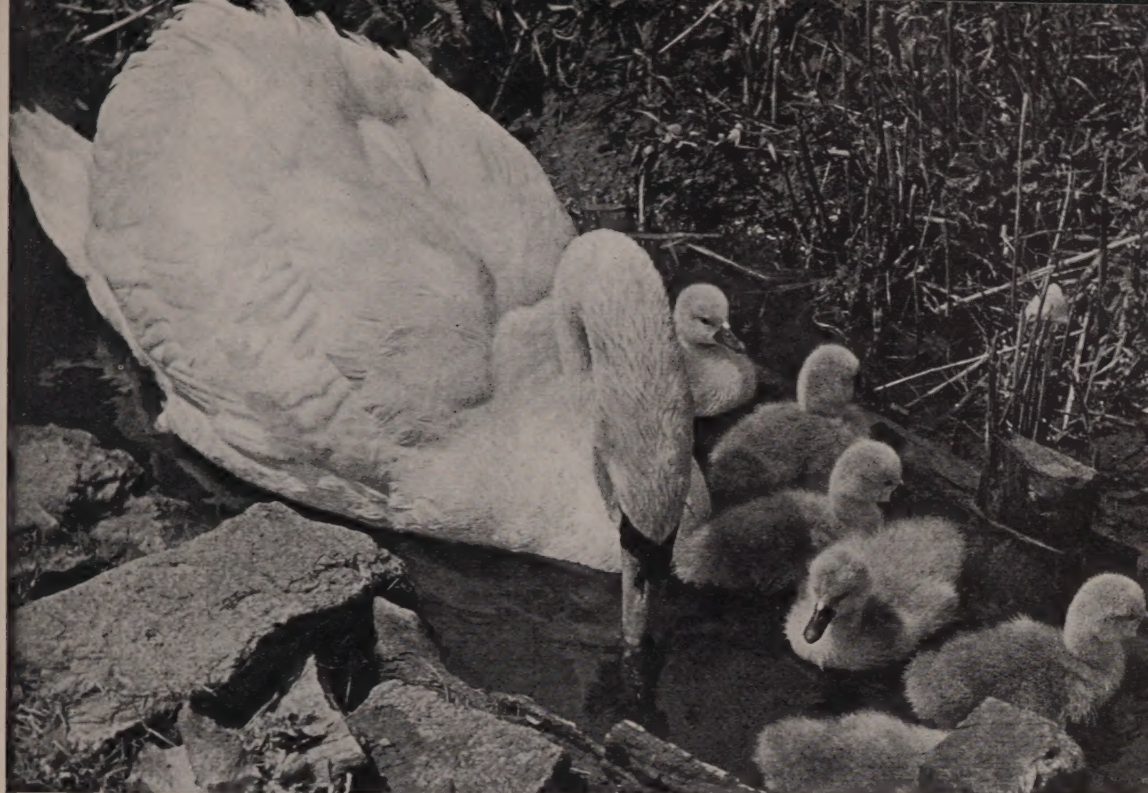
Now for our story: (Above) An expectant father and mother. He is preparing to drive strangers away, but his wife, patient to the last, is brooding her eggs. Tomorrow there will be cygnets.



*Hatched. Mother raises herself
for a thorough stretch and thanks
goodness now she can have a swim*

*But little hearts are faint and,
though Father in the distance says
come along do, Mother's wing is
hard to leave*





*"Now is the water warm enough for
the children to have their swim?"*

*Braver and braver; they can both
summon a smile*

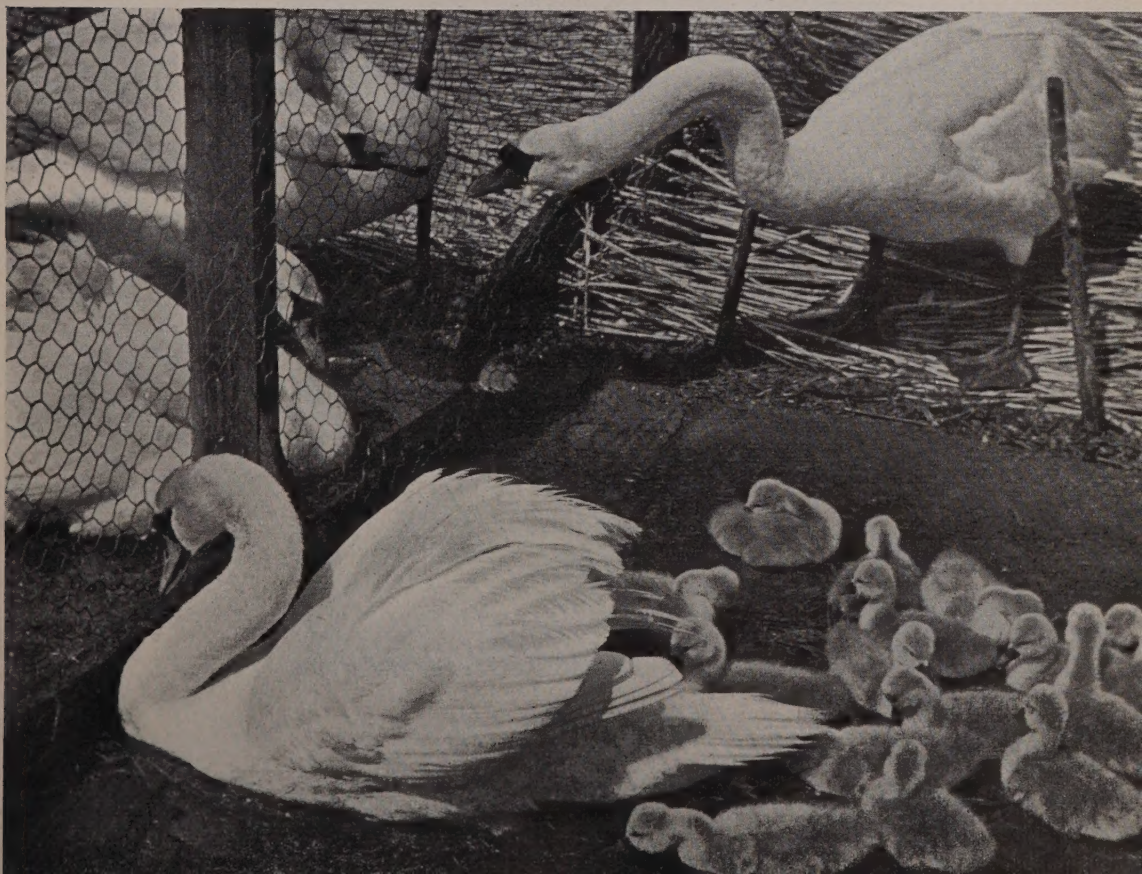


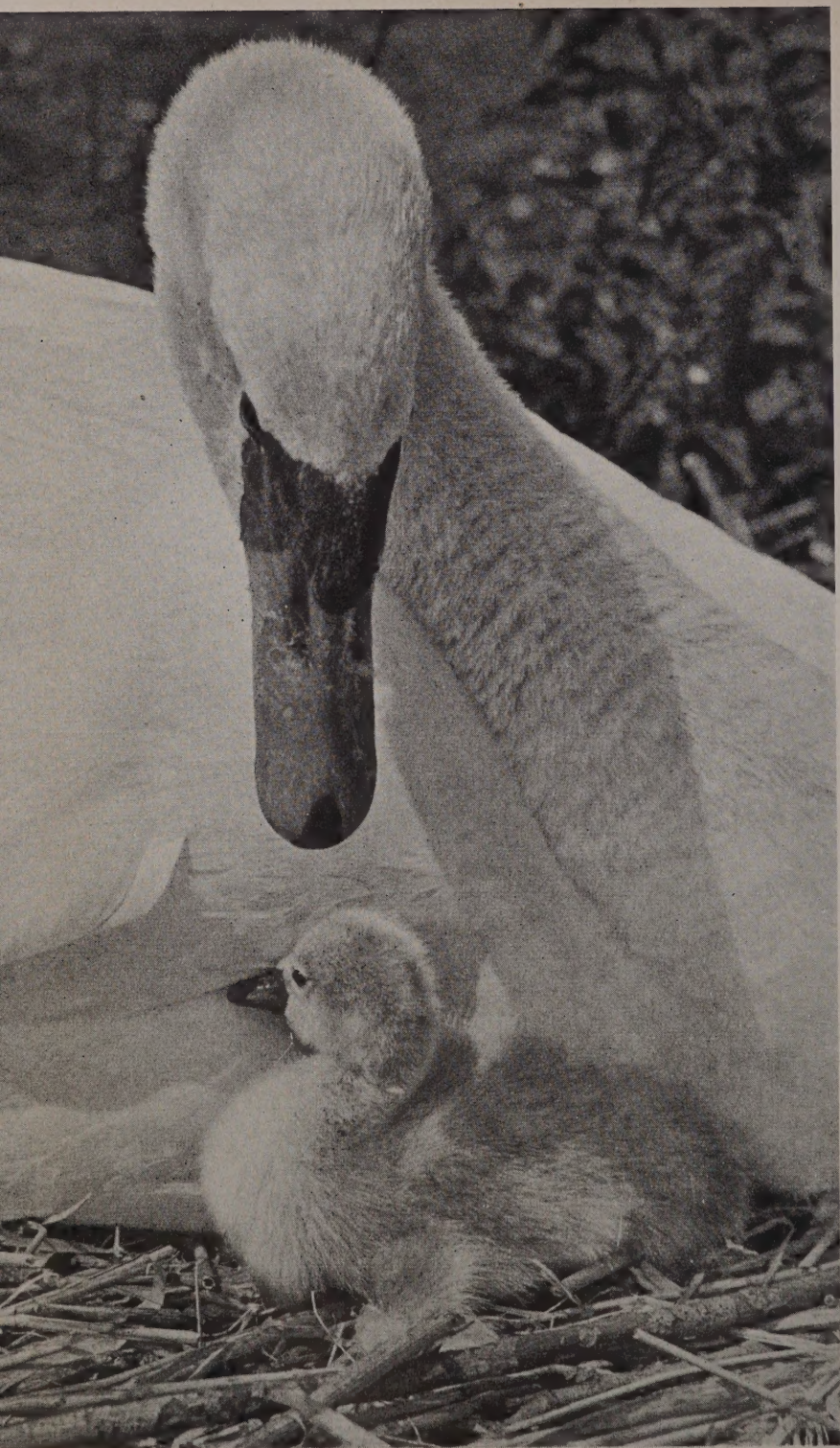


"Time we were turning back now, isn't it Father?"

"Whew! this is a steep pull after so many excitements"

Neighbours must be told every incident of such a very important day





"Have I been good, Mammy."

"Yes, darling—perfect"